FACT SHEET FOR NPDES PERMIT WA-004514-4

Liberty Lake Sewer & Water District

SUMMARY

The Liberty Lake Sewer and Water District owns and operates an extended aeration-activated sludge treatment facility designed to provide biological nutrient removal. The wastewater facility has a design flow of 2 million gallons per day (MGD) but is currently authorized to only operate up to 1 MGD. The TMDL bases loading on a flow of 1.51 MGD and flow estimate project a flow of 1.41 MGD in 2017.

The discharge of UV disinfected effluent is to the Spokane River approximately 3.5 miles downstream from the Washington/Idaho border. The system collects and treats the sanitary wastewater from approximately 4,018 ERUs (Equivalent Residential Units) in 2009 as well as commercial and light industrial dischargers. The original facility went online in August 1982. Construction of a substantial facility upgrade began in fall of 2004 and was completed in spring of 2006. The current average monthly effluent flow is approximately 0.731 MGD.

There is an approved metals TMDL for the Spokane River for Cadmium, Lead, and Zinc. The river is also listed on the state's 303(d) list for exceeding water quality criteria for several parameters including Dissolved Oxygen and PCB's.

The issuance of this permit is being timed to follow the approval of the Spokane River and Lake Spokane Dissolved Oxygen (DO) TMDL by the US EPA. This permit implements the Spokane River and Lake Spokane DO TMDL, the associated waste load allocations and managed implementation plan.

The proposed permit contains a compliance schedule for upgrading the treatment process for Phosphorus removal and has interim and final limits for Ammonia, $CBOD_5$ and Total Phosphorus. Water quality-based limits have been added for Lead, and Zinc according to the procedures in the metals TMDL. The permit limit for Cadmium is a performance based limit per the metals TMDL.

TABLE OF CONTENTS

I. INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has authorized the State of Washington to administer the NPDES permit program. Chapter 90.48 RCW defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), technical criteria for discharges from municipal wastewater treatment facilities (Chapter 173-221 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see **Appendix A - Public Involvement** of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. Comments and the resultant changes to the permit will be summarized in **Appendix D - Response to Comments**.

GENERAL INFORMATION	
Applicant:	Liberty Lake Sewer and Water District
Facility Name and Address:	Liberty Lake Water Reclamation Facility 1926 N. Harvard Road Liberty Lake, WA 99019
Type of Treatment:	Extended aeration, tertiary for biological nutrient removal and UV disinfection
Discharge Location:	Spokane River (RM. 92.3) Latitude: 47° 40' 42" N Longitude: 117° 07' 00" W.
Water Body ID Number:	WA-57-1010

II. BACKGROUND INFORMATION

A. DESCRIPTION OF THE FACILITY

HISTORY

In an effort to improve the water quality of Liberty Lake (Spokane County), a wastewater collection and treatment system was approved in 1973. This system replaced existing on-site septic systems that serviced permanent and seasonal homes along the shoreline and in the vicinity of the lake. A facility plan was prepared in 1976 (*Entranco Engineers*) and amended in 1978 (*Kennedy Consulting Engineers*) for a wastewater treatment plant. The treatment facility was completed and came on-line in August 1982.

Facility planning started in 2000 for an upgrade to accommodate growth, nitrogen removal and biological phosphorus removal requirements and allowed provisions for subsequent additional physical chemical phosphorus removal in anticipation of the Spokane River and Lake Spokane Dissolved Oxygen TMDL.

Construction of a substantial upgrade to the wastewater treatment plant began in the fall of 2004. Construction was completed in June, 2006.

The Liberty Lake Sewer and Water District (LLSWD) (5.3 mi^2 service area) provides services for a combination of residential, commercial and light industrial customers within the corporate limits of the City of Liberty Lake, and to an unincorporated area adjacent to Liberty Lake (Figure 1). The LLSWD is located south of Interstate 90 approximately mid-way between Spokane and Coeur d'Alene, Idaho.

COLLECTION SYSTEM STATUS

Information presented in the 1995 and 2003 Comprehensive Wastewater Management Plan showed the collection system to be in good to very good condition relative to inflow and infiltration (I&I). The system was constructed with high quality materials and ground water levels are below most of the gravity system. There is a small service area with clay service lines and some older manholes adjacent to the lake contributing some I&I.

TREATMENT PROCESSES

Wastewater enters the facility via a 21" gravity line and is channeled through a fine screen. Influent flow is measured by an ultrasonic weir level sensing system. The treatment facility is designed for a daily average flow of 2 MGD but is only currently authorized for up to 1 MGD. The wastewater treatment facilities will be permitted for 2 MGD and associated loadings upon submission and Department approval of the engineering report demonstrating how the District intends to implement the requirements of the Spokane River Dissolved Oxygen TMDL, and the water quality implementation plan.

Figure 1: LLSWD WWTP

The LLSWD facility is an extended aeration activated sludge treatment system for biological nutrient removal with Class I reliability and redundancy. The wastewater treatment facilities consist of headworks, anaerobic selectors, anoxic basins, aeration basins, four clarifiers, sludge storage with aerated sludge thickening tank, sludge drying (belt filter press) and handling facilities, piping and pump stations and other related, miscellaneous items.

DISCHARGE OUTFALL

Tertiary treated and disinfected effluent is discharged from the facility to the Spokane River (RM 92.3) via a gravity system and through a single port 16" pipe that extends from the bank and into the river.

RESIDUAL SOLIDS

The treatment facilities remove solids during the treatment of the wastewater at the headworks (grit and screenings), and at the secondary clarifiers, in addition to incidental solids (rags, scum, and other debris) removed as part of the routine maintenance of the equipment. Screenings, grit, rags, scum are drained and disposed of as solid waste at the waste to energy plant.

Waste solids from the clarifiers are treated using aerated sludge thickening and belt filter press. The resulting biosolids are trucked off-site for land application.

B. PERMIT STATUS

The previous permit for this facility was issued on August 31, 1998 and amended on March 12, 2001. It was administratively extended pending completion of the Spokane River DO TMDL and Managed Implementation Plan. The previous permit placed effluent limitations on 5-day Biochemical Oxygen Demand (BOD_5), Total Suspended Solids (TSS), pH, Fecal Coliform Bacteria, Total Residual Chlorine and Total Phosphorus.

An application for permit renewal was submitted to the Department on August 30, 2006 and accepted by the Department on September 7, 2006.

C. SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility received its last compliance inspection on August 10, 2010. The facility was found to be in compliance with limitations and conditions in the permit. During construction several site visits were made. The facility remained in compliance during construction.

Discharge Monitoring Report (DMR) data submitted during the last few years have been reviewed and are summarized in appropriate sections below.

D. WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the NPDES application and in DMRs. The effluent is characterized from information in the permit application as follows:

Table 1: Wastewater Characterization (from DMR data for Jan. 2008 through Aug. 2009)

Parameter	Concentration
BOD_5	3.3 mg/L (avg. weekly); 2.6 mg/L (avg. monthly)
TSS	4.3 mg/L (avg. weekly); 3.2 mg/L (avg. monthly)
Fecal Coliforms	A range of 3 to 21/100 ml (avg. weekly); ranges from 2 to 11/100 ml (avg. monthly)
pH	6.81 (min); 7.61 (max)
Flow	1.385 MGD (max daily); 0.706 MGD (avg. monthly)
Ammonia (as N)	0.29 mg/L (avg. weekly); less than 0.17 mg/L (avg. monthly)
DO	2.7 mg/L (minimum daily); 4.9 mg/L (avg. daily)
Total Phosphorus	0.85 mg/L (avg. weekly); 0.60 mg/L (avg. monthly)
Hardness	161 mg/L (max daily); 128.7 mg/L (avg. daily)
Zinc	90.1 ug/L (max daily); 74.3 ug/L (avg. daily)

Parameter	Concentration
Cadmium	0.017 ug/L (max daily); 0.008 ug/L (avg. daily)
Lead	0.386 ug/L (max daily); 0.197 ug/L (avg .daily)
Alkalinity	154 mg/L (max daily); 129.6 mg/L (avg. daily)

Results of a priority pollutant scan of the effluent were also submitted with the permit application. The results include:

Parameter	Concentration
Antimony	ND PQL @ 0.005 mg/L
Arsenic	ND PQL @ 0.005 mg/L
Copper	0.013 mg/L
Lead	ND PQL @ 0.002 mg/L
Mercury	ND PQL @ 0.0005 mg/L
Nickel	ND PQL @ 0.05 mg/L
Zinc	0.129 mg/L
Organic Priority Pollutants	Non Detect except for: Chloroform @ 1.3 ug/L Bis (2-ethlyhexyl)phthalate @ 17.0 ug/L
Total Cyanide	ND PQL @ 0.05 mg/L

III. PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations for municipal discharges are set by regulation (40 CFR 133, and Chapters 173-220 and 173-221 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992.) The most stringent of these types of limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent**.** Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation**.** Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

E. DESIGN CRITERIA

In accordance with WAC 173-220-150 (1)(g), flows or waste loadings shall not exceed approved design criteria.

Design criteria typically project anticipated flows and loadings into a wastewater treatment plant over a planning period of twenty years. The design criteria for this treatment facility were taken from the engineering report for the recent upgrade (2001), and the correspondence of April 19, 2004 (Liberty Lake Sewer and Water District Wastewater Treatment Plan Planned Upgrade – Affect on Spokane River Dissolved Oxygen) and are as follows:

Table 2: Design Standards for the Liberty Lake Sewer District WWTP

Parameter	Design Quantity
Monthly average flow (max. month)	2.0 MGD
Maximum daily flow	3.0 MGD
Maximum week flow	2.25 MGD
Peak Hydraulic capacity	4.0 MGD
BOD_5 influent loading for max. month	6,295 lbs/day
TSS influent loading for max. month	6,322 lbs/day

The DO TMDL based loadings on a flow of 1.51 MGD. Flow projections anticipate a flow of 1.41 MGD in 2017. A flow of 1.41 MGD was used for the interim TP loading in NPDES permit section 1.B Interim phase 2 Effluent Limitations.

F. TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Municipal wastewater treatment plants are a category of discharger for which technology-based effluent limits have been promulgated by federal and state regulations. These effluent limitations are given in the Code of Federal Regulations (CFR) 40 CFR Part 133 (federal) and in Chapter 173-221 WAC (state). These regulations are performance standards that constitute all known available and reasonable methods of prevention, control, and treatment for municipal wastewater.

The following technology-based limits for pH, Fecal Coliform, BOD_5, and TSS taken from Chapter 173-221 WAC are:

Table 3: Technology-Based Limits

Parameter	Limit
pH:	Shall be within the range of 6 to 9 standard units (s.u.).
Fecal Coliform Bacteria	Monthly Geometric Mean = 200 organisms/100 mL Weekly Geometric Mean = 400 organisms/100 mL

Parameter	Limit
BOD_5 (concentration)	Average Monthly Limit is the most stringent of the following: - 30 mg/L - may not exceed fifteen percent (15%) of the average influent concentration Average Weekly Limit = 45 mg/L
TSS (concentration)	Average Monthly Limit is the most stringent of the following: - 30 mg/L - may not exceed fifteen percent (15%) of the average influent concentration Average Weekly Limit = 45 mg/L

The design memorandum of April 19, 2004 anticipated an effluent of 10 mg/L BOD_5 and actual performance is somewhat better. At an average annual design flow of 1 MGD, the mass limit for the average month is 83.4 lbs/day and the mass limit for the average week is 125.1 lbs/day. At a design flow of 2 MGD (20 yr projection), the mass limit for the average month is 166.8 lbs/day and the mass limit for the average week is 250.2 lbs/day.

The memo did not give a similar projection for TSS. Assuming the performance is similar, at average annual design flow of 1 MGD, the mass limit for the average month is 83.4 lbs/day and the mass limit for the average week is 125.1 lbs/day. At a design flow of 2 MGD, the mass limit for the average month is 166.8 lbs/day and the mass limit for the average week is 250.2 lbs/day. Since approval of the Engineering Report, the draft Spokane River and Lake Spokane DO TMDL and the Managed Implementation Plan have been approved. The flows used for the waste load allocations were projected to the year 2017 and 2027 using information available in 2004 and 2005.

G. SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin-wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The state was issued 91 numeric water quality criteria for the protection of human health by the U.S. EPA (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDEGRADATION

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when receiving waters are of higher quality than the criteria assigned, the existing water quality shall be protected. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The LLSWD facility discharges to the Spokane River with the following use designations (Table 602 of Chapter 173-201A) in this reach of the River:

1. Aquatic life uses (salmonid spawning, rearing, migration);
2. Primary contact recreation;
3. Water supply uses (domestic, industrial, agricultural, stock); and
4. Miscellaneous uses (wildlife habitat, harvesting, commerce/navigation, boating, aesthetics).

Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

The Spokane River begins in northern Idaho at the outlet of Lake Coeur d'Alene and flows west 112 statute miles to the Columbia River. Flows from the lake are regulated by the discharge from Post Falls Dam which is operated by Avista Corporation for power generation. The river flows westward from the dam across the Washington/Idaho border, through several man made reservoirs for power generation, and through the large urban areas of Spokane and Spokane Valley.

The River basin encompasses over 6,000 square miles in Washington and Idaho. Upstream other point sources to the Spokane River are Coeur d'Alene POTW, Post Falls POTW, Hayden Area Regional Sewer Board POTW.

The flow regime for the Spokane River is dictated largely by freezing temperatures in the winter followed by spring and summer snowmelt. The annual harmonic mean flow is approximately 2,154 cfs as the river crosses the Idaho border. Flow increases to 2,896 cfs downstream of Spokane, reflecting the influx of groundwater through this river reach. The recent recertification of Avista's Post Falls dam means a minimum flow of 500 cfs will be maintained at the dam. At Liberty Lake (N. Harvard Rd.) this means a minimum flow of 262 cfs.

From Spokane it again flows into a series of man-made impoundments for power generation with the largest being Long Lake which is located approximately 30 miles northwest of Spokane. The river finally discharges into the Columbia River. Total length of the river is approximately 110 miles.

Significant nearby non-point sources of pollutants include heavy metals pollution from past mining activities in the "Silver Valley" of Idaho. This area is located east of the city of Coeur d'Alene and includes the north and south forks of the Coeur d'Alene River.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992).

Criteria for this reach of the river are summarized below:

Fecal Coliforms	100 organisms/100 mL maximum geometric mean.
Dissolved Oxygen	8 mg/L minimum. When a waterbody's D.O. is lower than the criteria (or within 0.2 mg/L of the criteria) and that condition is due to natural conditions, then human actions considered cumulatively may not cause the D.O. of that water body to decrease more than 0.2 mg/L. For lakes, human actions considered cumulatively may not decrease the dissolved oxygen concentration more than 0.2 mg/L below natural conditions.
Temperature	1) 17.5°C average of the daily maximum over 7 days 2) Temperature shall not exceed a 1-DMax of 20.0°C due to human activities. 3) When natural conditions exceed a 1-DMax of 20.0°C, no temperature increase will be allowed which will raise the receiving water temperature by greater than 0.3°C; 4) Nor shall such temperature increases, at any time, exceed $t = 34/(T + 9)$.
pH	6.5 to 8.5 standard units, with a human-caused variation within the above range of less than 0.2 units.
Turbidity	Less than 5 NTUs above background.
Phosphorus	A DO TMDL for the Spokane River includes limitations on phosphorus (see section below).
Metals	A dissolved metals TMDL for cadmium, lead, and zinc has been developed.
Toxics	No toxics in toxic amounts.

In addition, from Long Lake Dam (river mile 33.9) to Nine Mile Bridge (river mile 58.0), the average euphotic zone concentration of total phosphorus (as P) shall not exceed 25 ug/L during the period of June 1 to October 31.

In 1989, the Spokane River Phosphorus Management Plan was adopted to meet the previous total phosphorus standard. This plan set total phosphorus limits for each point source discharger to the Spokane River. These limits only applied during the algal growing season (June 1 to October 31).

The Department routinely assesses available water quality data on a statewide basis. The results are submitted to the Environmental Protection Agency (EPA) as an "integrated report" to satisfy Sections 303(d) and 305(b) of the federal Clean Water Act. This report lists water quality for a particular location in one of five categories, as recommended by EPA.

Categories one through four represent the 305(b) Report which is the overall status of water quality in the State. Category 5 represents waters on the 303(d) list which are the known polluted waters in the State.

A Total Daily Maximum Load (TMDL) must be developed for each water body segment on the 303(d) list. The purpose of a TMDL is to determine the amount of pollution a water body can receive while still meeting water quality standards. Maximum allowable pollution from various sources are established as either individual waste load allocations (WLAs) for points sources or load allocations (LAs) for non-point sources.

For the Spokane River, multiple segments are on the Department's 2004 303(d) list. Water quality is not meeting standards for: Dissolved Oxygen, Temperature, Dissolved Gas, Fecal Coliform Bacteria, Total PCBs, and Dioxin. The DO TMDL report has been approved by the U.S. EPA Region 10 office. The PCB TMDL is still a draft. There are not yet TMDLs prepared for the Temperature, Dissolved Gas, Fecal Coliform Bacteria, and Dioxin listings.

In the 305(b) Report, the Spokane River also includes category 1, 2, and 4a waters. Category 1 waters are where standards are being met; category 2 waters are where the data are not sufficient for listing as impaired, but there still may be a concern about water quality; and category 4a is for waterbodies that have an approved TMDL. There have been approved TMDLs for metals (Cadmium, Lead and Zinc) and Total Phosphorus (discussed above) on the Spokane River.

In response to the dissolved oxygen 303(d) listings, the Department prepared a draft DO TMDL report for the Spokane River and Lake Spokane (Ecology, 2004). The report recommended substantial reductions in the Phosphorus, Carboneous Biological Oxygen Demand (CBOD), and Ammonia discharged to the Spokane River from both point and non-point sources. The recommended reductions would apply during the "season" of April through October.

Ecology revised the draft 2004 TMDL and released it for public comment in 2007 and 2008. These 2007 and 2008 TMDL drafts still contained very stringent wasteload allocations, but also accounted for non-point pollution sources, and anticipated that pollutant trading might be used to help the point source dischargers meet their load allocations. Despite this improvement, these draft TMDLs were flawed in two ways:

1. They did not consider Avista's responsibility for the impacts caused by Long Lake Dam.

2. They assumed that the impacts of the Idaho dischargers were set by the NPDES permits EPA had proposed even though those permits did not contain discharge limits stringent enough to meet Washington's water quality standards when considered cumulatively with Washington sources (see Appendix H).

To develop a TMDL that will achieve compliance with Washington water quality standards, Ecology developed a revised TMDL based on modeling that now assesses the cumulative impact of all dischargers and accounts for the impacts of Long Lake Dam on dissolved oxygen in Lake Spokane. Because all the impacts causing the water quality impairment are considered, the proportional share that each discharger bears is less than in earlier draft TMDLs.

The new wasteload allocations for the point source dischargers, assumed reductions in the Idaho discharges, load allocations for non-point sources, and the improvements that Avista will make to mitigate the effect of the dam, give assurance that compliance with water quality standards will be achieved. The final Water Quality Improvement Report was submitted to EPA for approval in February 2010.

The Department also conducted a Total Maximum Daily Load (TMDL) assessment for PCBs in the Spokane River, during 2003-2004. In June, 2006, a draft TMDL report was issued (Ecology, 2006). The draft PCB TMDL is still only a draft. The draft TMDL proposed a loading scenario based on meeting the downstream Spokane Tribe water criterion for PCBs of 3.37 pg/L. This scenario requires a 95% PCB load reduction at the Idaho border, a 97% load reduction in the Little Spokane River, and ≥99% reductions in municipal, industrial, and stormwater discharges. PCB's were measured in the Liberty Lake effluent in samples collected in May 2001 (Ecology, 2002); an estimated average value of 1730 pg/L was found.

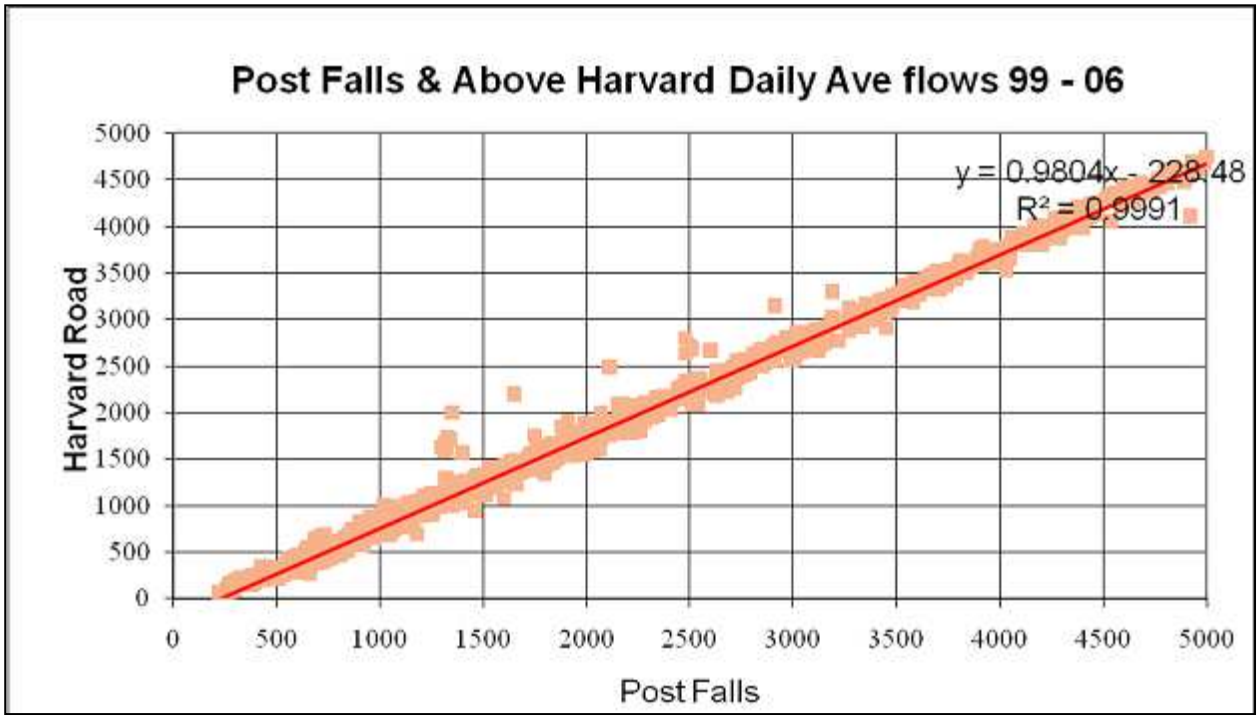
While the PCB TMDL has been delayed, clean up efforts are in progress and this proposed permit includes monitoring of toxics including PCBs and development of cleanup plans as contaminated sites are identified. EPA rules (40 CFR Subpart K (44 FR 32954-5)) do provide for the use of narrative limitations (BMPs) rather than numeric effluent limitations.

The Spokane River also regularly violates water quality criteria for Zinc. Criteria for Lead and Cadmium are also frequently exceeded, especially at higher flows. In 1999, the Spokane River Metals TMDL was completed to address these water quality exceedences (Ecology, 1999). Specific WLAs applicable to the Permittee are discussed in the section below.

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Pollutant concentrations in the proposed discharge exceed water quality criteria with technology-based controls which the Department has determined to be AKART. A mixing zone is authorized in accordance with the geometric configuration, flow restriction, and other restrictions for mixing zones in Chapter 173-201A WAC and are defined as follows:

> The dilution factors of effluent to receiving water that occur within these zones have been determined at the critical condition for aquatic life and human health. The acute and chronic factors for aquatic life were determined based on a critical river low flow (7Q10 flow) of 262 cfs. The critical river low flow has been impacted by relicensing of the Post Falls Dam and the efforts to maintain a minimum low flow of 500 cfs at the Post Falls Dam. Gauge data at Post Falls was reviewed and Harvard Road to forecast flow at Harvard Road based on a flow of 500 cfs at Post Falls.



Effluent flow values used to determine dilution factors were the design maximum monthly average and daily maximum flow values for the treatment facility shown in Table 2. This is somewhat of a departure from the guidance given in the Permit Writer's Manual where the maximum effluent values during the past three years are recommended to be used. The use of the design values is based on wastewater flow projections given in the latest facility plan (Century West, 2001).

Aquatic Life

Chronic: 25% of 262 cfs; effluent flow of 2.32 cfs (1.5 MGD); dilution factor = 26.35
Acute: 2.5% of 262 cfs; effluent flow of 3.87 cfs (2.5 MGD); dilution factor = 2.69

Human Health - carcinogens

Chronic: 25% of 2004 cfs; effluent flow of 2.32 cfs (1.5.MGD); dilution factor = 216

Human Health – noncarcinogens

Chronic: 25% of 367cfs; effluent flow of 2.32 cfs; dilution factor = 36.5

	Acute	Chronic
Aquatic Life	2.69	26.35
Human Health, Carcinogen	-	216
Human Health, Non-carcinogen	-	36.5

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near field) or at a considerable distance from the point of discharge (far field). Toxic pollutants, for example, are near-field pollutants; their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as BOD is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

The derivation of water quality-based limits also takes into account the variability of the pollutant concentrations in both the effluent and the receiving water.

The critical condition for the Spokane River is the seven day average low river flow with a recurrence interval of ten years (7Q10). Ambient data at critical conditions in the vicinity of the Liberty Lake Sewer District outfall was taken from Ecology's ambient river monitoring station at the State Line (station number 57A150) for the data period 12/90 – 7/02. The ambient Spokane River background data used for the DO TMDL and critical portions of this permit are:

Parameter	Value used
7Q10 low flow	262 cfs
Temperature – winter	2.3 to 8.1 deg. C
Temperature - summer	7.6 to 22.8 deg. C
pH	7.57 s.u. (mean)
Dissolved Oxygen	10.5 mg/L (mean)
Ammonia-N	0.013 mg/L (mean)
Fecals	4.1 / 100 mL (geometric mean)
Alkalinity	18.8 mg/L (mean)
Hardness	23.9 mg/L (mean)

BOD_5, Ammonia, and Total Phosphorus - The Spokane River and Lake Spokane (Long Lake) dissolved oxygen TMDL report sets WLAs for total phosphorus, $CBOD_5$, and ammonia for each NPDES discharger to the Spokane River. The managed implementation plan describes the approach Ecology will take to meet these WLAs and ultimately achieve the water quality standard for dissolved oxygen in Lake Spokane.

While, this approach is spread over a twenty year managed implementation plan (MIP), the focus is on the first ten years of the MIP. In the first ten years, the focus is on phosphorus reduction to the Spokane River. These reductions will be accomplished by a combination of phosphorus treatment technology and other offset creation and management efforts.

At the LLSWD wastewater treatment plant (WWTP), technology to reduce ammonia concentrations is already in place and the LLSWD WWTP is already complying with the ammonia limits. The technology to reduce phosphorus will also reduce CBOD.

Before the end of the first ten years of the MIP, a thorough assessment will provide any necessary information to guide actions for the second ten year period.

These second permit period actions will include continuation of successful measures conducted in the first 10 years, such as operation of the phosphorus treatment technology and other permanent phosphorous reduction efforts. They may also include new actions such as additional treatment technologies, consideration of river oxygenation, and/or reconsideration of Water Quality Standards applied to the River and Lake Spokane. If new information from the "Ten Year Assessment" justifies relaxing the WLAs and the WQBELs, the WQBELs will be relaxed. If so, the following section in federal regulation regarding "anti-backsliding" is applicable:

> *122.44(l) Reissued permits.*
> *(1**) Except as provided in paragraph (l)(2)** of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under Sec. 122.62.)*
>
> *(2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.*
> *(i) **Exceptions**--A permit with respect to which paragraph (l)(2) of this section applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if--*
> *Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or*

Ecology will establish WLAs and WQBELs on the best scientific information and interpretation available based on the facts that the "Ten Year Assessment" produces. Ecology will also examine and revise as needed the implementation of water quality based effluent limitations in terms of long term average versus monthly averages or maximums.

For the following 3 parameters ($CBOD_5$, TP and Ammonia) federal rules direct that effluent limitations normally be expressed in terms of monthly and weekly averages and sometimes daily maximums for a toxicant. 40 CFR122.45(d) does allow that if the normal monthly averages, weekly averages and daily maximum are impractical, alternatives such as an annual or seasonal limit may be appropriate. For the Spokane River and Spokane Lake system impractical means the water body does not respond in a measurable way to short term variations and long term trends and measurements descriptive of long term trends such as seasonal averages and total are appropriate. For the municipal dischargers to the Spokane River and Spokane Lake system impractical also means that reliable data sets with log normal distributions for conversion of maximums to averages do not exist. In the Chesapeake Bay, EPA recognized that temperature affecting plant performance resulting in a skewed data set making it impracticable to establish monthly and weekly averages.

A skewed data set can also result when the low end of the data set is determined by the detection limit. Both reasons are currently present concluding that it is currently impracticable to establish monthly and weekly effluent limitations for all 3 parameters.

For the LLSWD the DO TMDL gives the following wasteload allocations.

Total Phosphorus - The DO TMDL uses a flow of 1.5 MGD for the year 2027 to calculate the mass of the final water quality based effluent limitations (WQBELs) and WLAs. In the Spokane River and Lake Spokane Dissolved Oxygen Total Maximum Daily Load – Water Quality Improvement Report, Table 3 gives the model input parameters. Table 5 gives the resulting Waste Load Allocations (WLAs) based on modeling scenario #1. The U.S. EPA model needed to express its input in average monthly lbs/day. Based on assumptions including weekly sampling, a seasonal average of 36 ug/L was used for model inputs from the LLSWD WWTP. While many question the validity of the coefficients used in this translation, particularly when effluent data sets are heavily influenced by significant quantities of data at the detection limit, it will take time to collect data from as yet un-built treatment facilities to derive a reliable statistical basis for better and fairer effluent limitations. Even so, there are no assurances that a log normal distribution will be present for all parameters of interest.

In the DO TMDL, WLAs are set based on a seasonal average effluent concentration. For the Liberty Lake Sewer and Water District POTW, the equivalent mass used for the WLA, at a flow of 1.51 MGD with an effluent concentration of 36 ug/l is 0.45 lbs/day. For the season, March 1 to October 31, the mass is 111 lbs. If the POTW is operating at 50 ug/L or a mass of 0.63 lbs/day a difference of 43 lbs must be found and eliminated over the course of the season. The potential offset is 43 lbs for the season.

In the interim, the effluent limitation for total phosphorus (TP) is a performance based limit. TP results for discharge season were examined for 2008 and 2009 to generate a performance limit. The performance based concentration is expressed as a mass effluent limitations in S1.B using a flow of 1.41 MGD. 1.41 MGD was the flow projected for 2017 in the collaboration sessions for the creating the "Foundational Concepts." The flow projection has been carried forward into the current In the Spokane River and Lake Spokane Dissolved Oxygen TMDL.

The Department and the Spokane River dischargers have funded a study to determine if all the total phosphorus in the wastewater effluent is biologically available for growth of aquatic organisms. The DO TMDL assumes100% of the TP is available for growth. Preliminary results of the bio-available study indicate the fraction of TP available for growth is less than 1.

The Water Environment Research Foundation and CH2M-Hill have published studies indicating that in wastewater the digestion step of the total phosphorus analysis introduces compounds that interfere with a reliable, reproducible analytical result. Successful compliance monitoring requires reliable, reproducible results. A surrogate for the total phosphorus analysis appears to be desirable. Wastewater experts (The City of Spokane's Next Level of Treatment Peer Review Group) have suggested that the analysis for total reactive phosphorus is such an analysis. The Permittee will be required to submit a report establishing a ratio of total phosphorus to total reactive phosphorus and a ratio of total reactive phosphorus to bio-available phosphorus.

$CBOD_5$ - For the Liberty Lake Sewer and Water District POTW, the DO TMDL projects that compliance requires the effluent $CBOD_5$ concentration be less than 3.6 mg/L or 45 lbs/day over the season. For the season 45 lbs per day means 11,034 lbs. For the winter season of November 1 through February performance based effluent limits would be appropriate. Currently no data exists for the potential combination of treatment technologies. The proposed permit "final" effluent limitations for $CBOD_5$ and TSS used data from the existing discharge monitoring reports for an approximation and place holder. The BOD_5 data from current LLSWD WWTP discharge is characterized by an average weekly concentration of 3.3 mg/L; and an average monthly concentration of 2.6 mg/L. The data ranges from 1.0 mg/L to 4.8 mg/L. The common method detection limit is 2.0 mg/L and data below the MDL is of a lower accuracy. This data results in a skewed data set, not a log normal distribution.

Ammonia - With the recent upgrade there is no longer a reasonable potential for ammonia to pollute based on toxicity and the results of the first several months of operation. However, ammonia does have an oxygen demand and the DO TMDL has a waste load allocation for ammonia. For the LLSWD the revised DO TMDL gives the following effluent concentrations for ammonia:

> For the season of March 1 to May 30, the allowable average concentration is 0.71 mg/L with an allowable average mass of NH4 as N is 8.94 lbs/day and 823 lbs for the "season."
> For the season of June 1 to September 30, the allowable average concentration is 0.18 mg/L with an allowable average mass of NH4 as N is 2.27 lbs/day and 277 lbs for the "season."
> For the season of October 1 to October 31, the allowable average concentration is 0.71 mg/L with an allowable average mass of NH4 as N is 8.94 lbs/day and 277 lbs for the "season."

Existing ammonia data from LLSWD WWTP for the summer months is frequently reported as less than the method detection limit resulting in a skewed data set.

Temperature and pH - The impact of the discharge on the temperature and pH of the receiving water was modeled by simple mixing analysis at critical condition based on EPA procedures (EPA, 1988). The receiving water ambient conditions at the critical conditions that were used are shown above.

This was followed up with effluent temperature monitoring through 2006. Under critical conditions there is no predicted violation of the Water Quality Standards for Surface Waters and the effluent may modestly cool the receiving water. This is a losing stretch of the Spokane River and ground water provides no cooling. In July, August and September the river water temperature does exceed the standard.

The technology-based effluent limitations for pH that are defined in rule were placed in the permit and temperature was not limited. However temperature in the river will be monitored as one set of data is not necessarily representative of a dynamic system.

Occasionally the pH of the river at stateline exceeds 7.8 and can be up to 8.18 in August. Additionally, alkalinity in the river is low, 16 to 22 mg/L as $CaCO_3$. Information on alkalinity of the river at state line and Barker Rd. is limited to 2008. Low alkalinity, higher pH and low flows mean that there is the potential the pH of the river potentially could change more than the 0.5 pH unit at the edge of the chronic mixing zone due to the minimum pH of the treatment plant effluent. The minimum pH at the LLSWD WWTP generally occurs in the afternoon and is temporary. Current monitoring does not indicate how temporary. The water quality standards do not address duration of a pH change of 0.5 pH units.

The permit proposes to require continuous pH measurement of the effluent or no less frequently than 15 minute intervals. The permit proposes to require grab sample monitoring of river alkalinity once a month in July, August and September.

Fecal Coliform - The numbers of fecal coliform were modeled by simple mixing analysis using the technology-based limit of 400 organisms per 100 mL and a dilution factor of 26.35.

Under critical conditions there is no predicted violation of the Water Quality Standards for Surface Waters with the technology-based limit. Therefore, the technology-based effluent limitation for fecal coliform bacteria was placed in the proposed permit.

Toxic Pollutants - Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

The following toxics were determined to be present in the discharge: Cadmium, Lead, Zinc, and Ammonia. A reasonable potential analysis was conducted for Ammonia to determine whether or not effluent limitations would be required in this permit.

The Spokane River is also listed for violating criteria for total Polychlorinated Biphenyls (PCBs). Lake Spokane is listed for violating water quality standards for 2,3,7,8 TCDDs; also known as Dioxins and Furans. A separate TMDL for these pollutants was started. It will be published as a technical report to guide source control and cleanup activities. Monitoring of the POTW effluent for these pollutants is appropriate. Ambient monitoring also indicates the presence of Polybrominated Diphenyl Ethers (PBDE). As an initial step toward future source identification the wastewater effluent will be monitored for PBDE.

Heavy Metals - Spokane River's water quality for Cadmium, Lead, and Zinc has violated the surface water criteria for these metals, especially at higher flows. High metals concentrations are from past mining activities along the north and south forks of the Coeur d'Alene River which discharge into Lake Coeur d'Alene. A study was completed and final report submitted to EPA (Ecology, 1998; 1999) with recommended procedures for calculating permit limitations for Cadmium, Lead, and Zinc that are protective of aquatic life.

Limits will be determined using procedures in Ecology's 1999 Spokane River Dissolved Metals TMDL. The limitation will be the more restrictive of either:

- Potential limits based on meeting aquatic life criteria using effluent hardness at end-of-pipe, or
- Potential limits, performance plus 10%, based on maintaining existing concentrations of metals in effluent, where adequate data exist (i.e., performance-based limits).

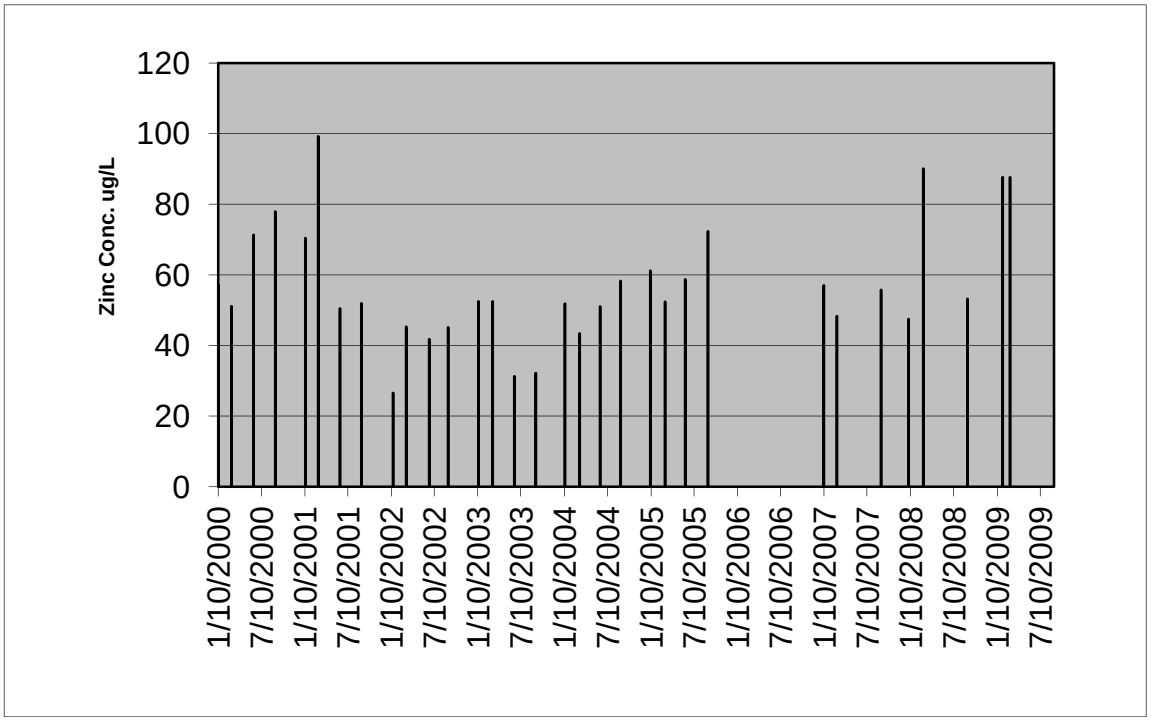
Water quality-based effluent limitations for Cadmium, Lead, and Zinc are usually based on blended effluent hardness and river hardness calculated at the edge of the respective mixing zone boundary as used in the EPA Technical Support document. Ecology's TSD calc spreadsheet follows the EPA procedure. However, the Spokane River Dissolved Metals TMDL for Cadmium, Lead, and Zinc used effluent hardness, no blending.

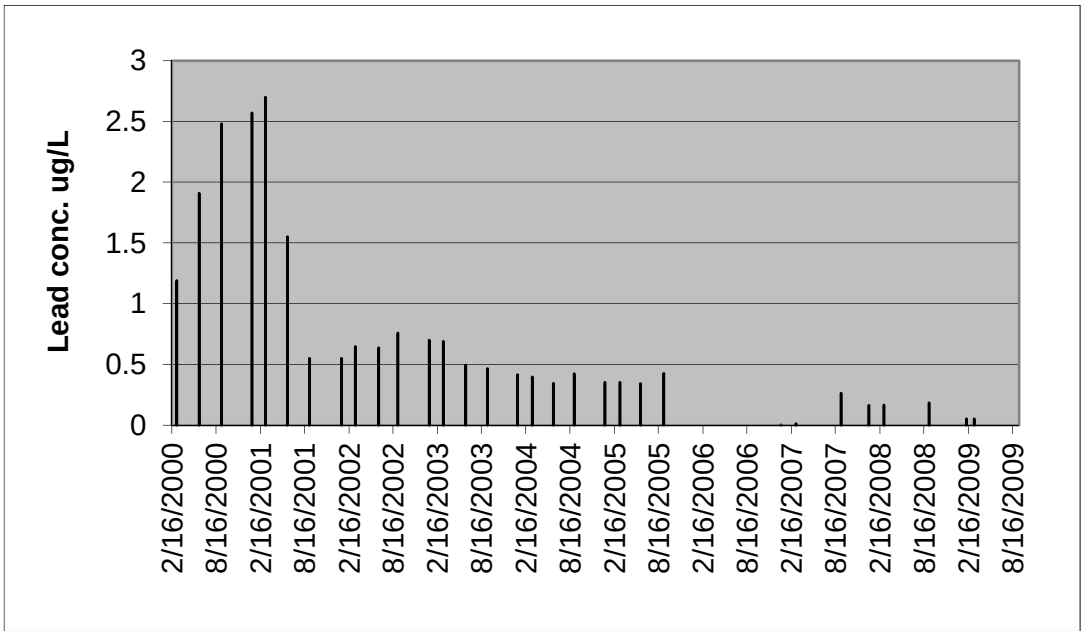
Cadmium, Lead, and Zinc:

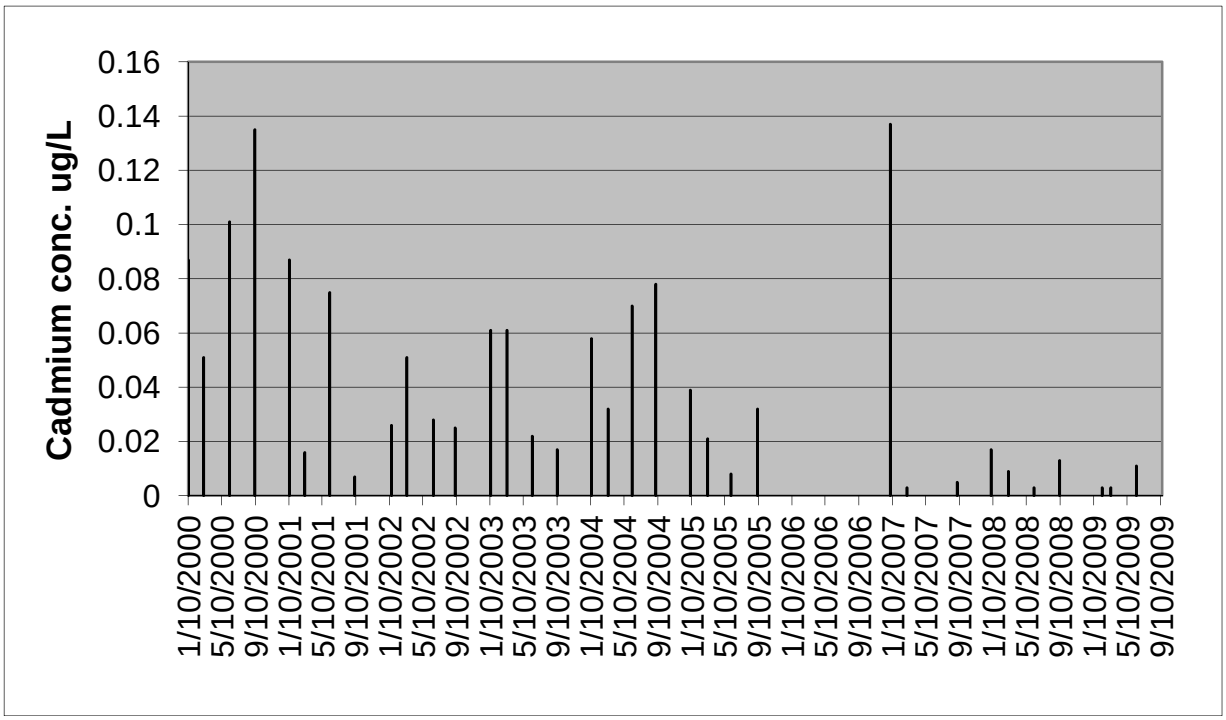
In accordance with the metals TMDL for the Spokane River, the WLA-based limit for each metal is the more stringent of the two methods (WQ-based vs. Performance-based) and are as follows. The data for cadmium indicates that there is not a reasonable potential to pollute. The cadmium effluent limitation therefore will be performance based. There is a reasonable potential for lead to pollute.

For zinc there is a reasonable potential, however, the ambient concentration in the river exceeds the chronic water quality standard and the river has no dilution capacity. The dilution factor for the chronic condition is 1.

For zinc, effluent monitoring shows some increase of effluent concentration in 2003 through 2008 over 2001 and 2002.







Based on the procedure from the Spokane River Dissolved Metals TMDL, the current water quality standards and hardness data from LLSWD, the effluent limits are the following:

	Average Monthly Limit	Maximum Daily
Zinc (total recoverable)	80.8 ug/L	117.8 ug/L
Lead (total recoverable)	3.7 ug/L	5.4 ug/L

Note: the metal translators for dissolved/total fraction have been revised.

Based on the procedure from the Spokane River Metals TMDL, the performance based effluent limitations for cadmium are the following:

	Average Monthly Limit	Maximum Daily
Cadmium (total recoverable)	76 ug/L	396 ug/L

Other metals:

The current permit required a priority pollutant scan of the effluent. Metals data from this analysis were submitted with the permit application with the following results:

	Result
Copper	0.013 mg/L

A determination of the reasonable potential for these metals to exceed the water quality criteria was evaluated with the procedures given in EPA (1991) and described in Ecology's Permit Writer's Manual at the critical condition. The translator value for copper (0.996) was determined from the hardness metals ambient data for the Spokane River at the state line, 57A150, monitoring station (October 1998 – August 2008). It was determined that there is a no reasonable potential for the effluent to cause a violation of the copper surface water criteria.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Acute toxicity tests measure mortality as the significant response to the toxicity of the effluent. Dischargers who monitor their wastewater with acute toxicity tests are providing an indication of the potential lethal effect of the effluent to organisms in the receiving environment.

Chronic toxicity tests measure various sublethal toxic responses such as retarded growth or reduced reproduction. Chronic toxicity tests often involve either a complete life cycle test of an organism with an extremely short life cycle or a partial life cycle test on a critical stage of one of a test organism's life cycles. Organism survival is also measured in some chronic toxicity tests.

For the previous permit cycle whole effluent toxicity testing was done on a composite effluent sample collected in July 1999 as required by the discharge permit. The results of the testing are:

Test	Species	NOEC	LOEC	LC_{50}	IC_{25}
48hr Acute survival	*Daphnia pulex*	100%	100%	NA	NA
96hr Acute survival	fathead minnow	36%	50%	52.5%	NA
7 day Chronic survival	*Ceriodaphnia dubia*	50%	100%	71.4%	NA
7 day Chronic reproduction	*Ceriodaphnia dubia*	12.5%	36%	NA	22.8%
7 day Chronic survival	fathead minnow	36%	50%	84.8%	NA
7 day Chronic growth	fathead minnow	12.5%	36%	NA	38%

NOEC = no observable effects concentration
LOEC = lowest observable effects concentration
LC_{50} = lethal concentration where 50% of the organisms are affected
IC_{25} = inhibitory concentration where 25% of the population are affected

At that time there was no survival (0 %) of the fathead minnow in 100% effluent for the 96hr acute toxicity test. An Ecology review of the test results using TOXIS software concluded that an acute WET limit is needed. The review also noted that the effluent showed some chronic toxicity.

The new wastewater treatment is producing very good effluent in terms of nitrogen. To verify the lack of other toxicants in toxic amounts, the Permittee will be required to characterize the effluent with regards to whole effluent toxicity. This will be done twice during the permit cycle, 2011 and 2013.

Accredited WET testing laboratories have the proper WET testing protocols, data requirements, and reporting format. Accredited laboratories are knowledgeable about WET testing and capable of calculating an NOEC, LC_{50}, EC_{50}, IC_{25}, etc. All accredited labs have been provided the most recent version of the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* which is referenced in the permit. Any Permittee interested in receiving a copy of this publication may call the Ecology Publications Distribution Center 360-407-7472 for a copy. Ecology recommends that the Permittee send a copy of the effluent limitations and acute or chronic toxicity sections(s) of their permit to their laboratory of choice.

When the WET tests during effluent characterization indicate that no reasonable potential exits to cause receiving water toxicity, the Permittee will not be given WET limits and will only be required to retest the effluent prior to application for permit renewal in order to demonstrate that toxicity has not increased in the effluent.

If the Permittee makes process or material changes which, in the Department's opinion, results in an increased potential for effluent toxicity, then the Department may require additional effluent characterization in a regulatory order, by permit modification, or in the permit renewal.

Toxicity is assumed to have increased if WET testing conducted for submission with a permit application fails to meet the performance standards in WAC 173-205-020, "whole effluent toxicity performance standard". The Permittee may demonstrate to the Department that changes have not increased effluent toxicity by performing additional WET testing after the time the process or material changes have been made.

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

Based on the priority pollutant scan submitted with the permit application and the reasonable potential analysis spreadsheet, the effluent from the Liberty Lake WWTP is not likely to have chemicals of concern for human health. The determination was evaluated with procedures given in the Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) and the Department's Permit Writer's Manual (Ecology Publication 92-109, 2002 revision).

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

Section 173-204-400 provides guidance to evaluate the potential for sediment impacts. Local conditions are a key consideration. With the level of treatment provided by the recently upgraded facility and the scouring effect of the Spokane River, it is unlikely that the discharge from the facility is causing any environmental concerns with the sediments downstream of the outfall.

H. GROUND WATER QUALITY LIMITATIONS (HYDROGEOLOGIC STUDY)

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

Information presented in the permit application and annual reports show that final effluent is used for landscape irrigation within the confines of the facility site. The annual report for 2001 showed a total of 8.17 million gallons was spray irrigated.

The protection of the ground water at the site as well as the entire Spokane River valley from Spokane to Coeur D'Alene is very important since the aquifer supplies almost all of the drinking water for the 400,000 residents. The Spokane Valley/Rathdrum Prairie aquifer has been designated sole source aquifer status by the EPA. The depth of the aquifer can be as shallow as 40 ft at the eastern Spokane city limits.

Information presented to Ecology by the Permittee during the development of this Fact Sheet indicates the desire to continue spray irrigation of final effluent onto grounds within the confines of the treatment facility site during the irrigation season.

The state's ground water standards (WAC 173-200) apply to any activity that has a potential to contaminate ground water quality. Given the volume of water irrigated and the shallow nature of the aquifer, the irrigation of effluent on the treatment facility site has potential to impact ground water. To determine the potential impacts of the irrigation and other reuse options, a hydrogeologic study of the site is necessary. The study will describe the geologic and hydrogeologic characteristics of the site and vicinity and establish background concentrations for nitrates and other contaminants of interest.

The permit will require the submittal of a hydrogeologic study. It shall comply with all of the requirements listed in Ecology's ground water guidance (Ecology, 1996). The study must also describe how any proposed irrigation practice or other reuse option will comply with any disinfection and/or setback requirements contained in Washington Department of Health's guidance, "*Design Criteria for Municipal Wastewater Land Treatment Systems for Public Health Protection"* or *"Water Reclamation and Reuse Standards."*

I. MIXING ZONE

The current permit exempts the mixing zone from the dimensional boundaries described in the surface water standards (WAC 173-201A-400(12)) because the outfall was constructed prior to 1986. However, with the improved effluent quality of the wastewater treatment facility, the exemption is not necessary. The outfall was modeled in the Engineering Report for the current upgrade which used a design flow of 2 MGD in the maximum month.

The permit will allow a mixing zone with dimensional boundaries as provided in WAC 173-201A-400(7).

Comparison of Effluent Limits with the Existing Permit Issued August 31, 1998

Parameter	Existing Limits	Initial Interim Limits	Final Limits
Flow	1 MGD	1 MGD	2 MGD[(1)]
BOD_5 monthly average average weekly	30 mg/L (200 lbs/day) 45 mg/L (300 lbs/day)	10 mg/L (83 lbs/day) 15 mg/L (125 lbs/day)	
$CBOD_5$ monthly average			45.0 lbs/day
TSS monthly average average weekly	30 mg/L (250 lbs/day) 45 mg/L (375 lbs/day)	10 mg/L (83 lbs/day) 15 mg/l (125 lbs/day)	5 mg/L (83.4 lbs/day) 7 mg/L (116.8 lbs/day)
pH daily minimum daily maximum	6 s.u. 9 s.u.	7 s.u. 8.5 s.u.	7 s.u. 8.5 s.u.
Fecal Coliforms			

monthly average weekly average	200 cfu/ 100 mL 400 cfu/ 100 mL	200 cfu/ 100 mL 400 cfu/ 100 mL	200 cfu/ 100 mL 400 cfu/ 100 mL
Total Phosphorus	not less than 85% removal when flow = 0.895 MGD, or required by Spokane River Phosphorus Mgmt. Plan	0.612 mg/L	0.45 lbs/day - monthly average
Ammonia (NH4 as N)	March 1 to May 30, an average monthly of 8.94 lbs/day June 1 to September 30, an average monthly of 2.27 lbs/day October 1 to October 31, an average monthly of 8.94 lbs/day		
Zinc (total recoverable) daily maximum		117.8 ug/L	117.8 ug/L
Lead (total recoverable) daily maximum		5.4 ug/L	5.4 ug/L
Cadmium (total recoverable) daily maximum		396 ug/L	396 ug/L
(1) The Liberty Lake Sewer District WWTP will be permitted for a 2 MGD hydraulic capacity and associated influent loadings upon submission and Department approval of the engineering report demonstrating how the District intends to implement the requirements of the Spokane River Dissolved Oxygen TMDL, and the managed implementation plan.			

J. IMPLEMENTATION OF THE MANAGED IMPLENTATION PLAN

The collaborative effort that led to the development of the current managed implementation plan contains the following agreed actions which are pertinent to the proposed permit.

The agreed actions are:

• ***Technology Selection Protocol:*** The Liberty Lake Sewer and Water District will prepare, and submit to Ecology for approval, a comprehensive technology selection protocol for choosing the most effective feasible technology for seasonally removing phosphorus from their effluent with an objective of achieving a discharge with seasonal average 50µg/l phosphorus or lower. Pilot testing is a significant part of the protocol and has appropriate provisions for oversight, quality assurance and control. The protocol includes a preliminary schedule for construction of the treatment technology.

• ***Offset Plan:*** Not a requirement in the proposed permit. In the next permit cycle it is anticipated that an Offset Plan will be required. The future offset plan is anticipated to address a schedule for offset creation and trading, other phosphorus removal actions such as conservation, effluent re-use, source control through support of regional phosphorus reduction efforts (such as limiting use of fertilizers and dishwasher detergents), and supporting regional non-point source control efforts to be established. The offset plan, in combination with the phosphorus reduction from technology, will provide reasonable assurance of meeting the Liberty Lake Sewer and Water District's final effluent limitations given in S.1.C. Subsequent updates will include an annual assessment of the previous year's offset creation and management effort, an accounting of offset credits earned, expended and available for trading. Based on lessons learned from ongoing studies and evaluations of previously implemented best management practices, the report shall make recommendations for the upcoming year.

• ***Engineering Report:*** After the Liberty Lake Sewer and Water District concludes the technology selection protocol, the Permittee will prepare, and submit to Ecology for approval, an Engineering Report concerning the chosen technology, including any updates to the construction schedule. The Engineering Report will (if necessary) be accompanied by amendments to the schedule and substance of the target pursuit actions so that in combination with the Engineering Report on expected technology performance, there is reasonable assurance of meeting the target in ten years. As the DO TMDL was being finalized a question was raised regarding the equivalency of CBOD5, Total Phosphorus and Ammonia to one another for purposes of offset or pollutant credit trading within a permit or between permittees. The modeling done to date for the DO TMDL does not provide an answer. The engineering report will be the document where pollutant equivalencies are presented for the Department review and documented.

The Engineering Report is to address the following topics based on rule requirements, pollutant equivalency consideration, potential for offset trading, etc:

1) Population projections by year for the next 20 years,
2) Loading projections, flow, TP, CBOD, Ammonia, and TN;
3) Wastewater treatment processes needed to reliable comply with the $CBOD_5$, NH_3 and TP WLAs of the Spokane River and Lake Spokane Dissolved Oxygen TMDL; including loadings potentially bypassed in a "blending event," and requiring an offset or pollutant equivalency consideration;
4) Projection of loading removed for TP, CBOD, Ammonia, and TN;
5) Projection of offset(s) and other actions needed for compliance with DO TMDL that reduce TP, CBOD and ammonia loadings to the final effluent and the river,
6) Options considered to generate offset(s),
7) Recommended offset option and/or other actions (such as water reclamation and offset generating options if projected to be needed)
8) Timeline of offsets and other DO compliance actions to be needed and implementation schedule to achieve DO TMDL compliance,

9) Site options and process options for future addition of process elements and offset generating activities to achieve the final equivalent effluent limitations and water reclamation requirements as described in Chapter 173-219 WAC "Reclaimed Water Use."
10) Establish a ratio of total phosphorus (TP) to total reactive phosphorus (TRP) and a ratio of total reactive phosphorus (TRP) to bio-available phosphorus.
11) Findings from the University of Washington / WERF bioavailability lab study.
12) Subsequent monitoring and modeling of bioavailable phosphorus impacts in Lake Spokane.
13) the pounds of phosphorus that are not bio-available, not reactive and not a nutrient source that contribute to the total phosphorus waste load allocation
14) recommended adjustment potentially made to the effluent limitations needed for compliance with the DO TMDL because of non bio-available phosphorus in the effluent,
15) The plan update, in combination with the pollutant reduction from technology, shall provide reasonable assurance of meeting the Permittee's Waste Load Allocations in ten (10) years.

• ***Interim Limits:*** This portion of the original Foundational Concepts has been superseded by the new DO TMDL.

• ***Final Limits:*** Final limits applicable during the remaining term of the MIP will be set based on the actual performance of the technology installed and operated at optimum reliable efficiency. The effectiveness of the TMDL and the permit limits will be evaluated at the 10 year assessment discussed in the managed implementation plan. If necessary and appropriate, new WQBELs may be established based on the result of the 10 year assessment.

The Clean Water Act generally prohibits relaxing effluent limits in reissued permits. However, exceptions are provided for in the anti-backsliding rule provisions. For example, new information, which would have justified less stringent effluent limits had it been available, can be used to justify relaxing effluent limits in reissued permits (see section 402(o)(2) of the Act). If the revised WQBELs are less stringent based on such new information, this anti-backsliding exception would apply.

Start Up: The compliance schedule anticipates a period of time for an operational shake down period to establish consistent reliable performance (possibly two years) and allows a couple years of data collection prior to the ten year assessment. The permit will have a compliance schedule to implement planning, design and construction of phosphorus removal process elements. The schedule assumes biennial assessment data collection beginning in even numbered years and concluding in odd numbered years. The final two year cycle would be 2018 and 2019 leading into the critical Ten Year Assessment.

Similarly, the permit compliance schedule requires submission of updates to the offset plan including an annual assessment of progress and lessons learned.

K. COMPLIANCE SCHEDULE

The proposed DO TMDL and the subsequent managed implementation plan are anticipated to require additional treatment facilities to remove phosphorus and oxygen consuming pollutants. The Liberty Lake Sewer and Water District will produce the following deliverables on or before the date given:

Item	Date
Engineering Report (update) submitted	October 30, 2013
Submission of Contract Documents for construction of phosphorus removal process units to achieve interim TP effluent limitations	October 1, 2014
Verification of Construction and Start Up Completion ready for Compliance with Spokane River and Lake Spokane DO TMDL WLAs	March 1, 2018

The Offset Plan described in the Managed Implementation Plan is intended to 1) keep the Department and the public informed of the progress being made with offset management and 2) to form the basis and framework for offset credit trading. The contents of the plan will include an annual assessment of the previous year's offset management effort, an accounting of offset credits earned, expended and available for trading. Based on lessons learned from ongoing studies and evaluations of previously implemented best management practices, the report shall make recommendations for the upcoming year. However, the Spokane River dischargers will not need offsets in the first five year permit cycle and therefore submittal of a plan for offsets and trading is not a requirement of this proposed permit's compliance schedule.

IV. MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

Monitoring for priority pollutants is being required to further characterize the effluent and to add to the data base for the development of local discharge limits. Whole effluent toxicity testing will be required to assess chronic toxicity when the next permit is issued. Some chronic toxicity was found in the samples collected in 1999.

Monitoring of sludge quantity and quality is necessary to determine the appropriate uses of the sludge. Sludge monitoring is required by the current state and local solid waste management program and also by EPA under 40 CFR 503.

The monitoring schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

The required monitoring frequency is consistent with agency guidance given in the 2002 version of Ecology's *Permit Writer's Manual* (July 1994) for activated sludge treatment facilities with flows less than 2 MGD.

Additional monitoring is required in order to further characterize the effluent. These monitored pollutants could have a significant impact on the quality of the surface water.

The Permittee will be required to have influent, final effluent, and sludge sampled for toxic pollutants in order to characterize the input from industrial users. Sampling is also done to determine if pollutants interfere with the treatment process or pass through the plant to the sludge or the receiving water. The monitoring data will be used by the Department or the Liberty Lake Sewer and Water District to develop local limits which commercial and industrial users must meet.

Nitrate testing of the effluent will be added because of the Permittee's proposed use of final wastewater for onsite landscape irrigation.

L. EFFLUENT LIMITS BELOW DETECTION

The water quality-based effluent limit for $CBOD_5$ in the wastewater is below the capability of current analytical technology to detect. The Method Detection Level (MDL) is the minimum concentration of an analyte that can be measured and reported with a 99 percent confidence that its concentration is greater than zero as determined by a specific laboratory method. For average monthly limits, all values above the MDL are used as reported and all values below the MDL are calculated as zero.

M. LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories.* The laboratory at this facility is accredited for general chemistries and microbiology.

Accredited Parameters:

General Chemistry		
Parameter name	**Method**	**Matrix ***
Biochemical Oxygen Demand	SM 5210 B	N
Oxygen, dissolved	SM 4500-O C	N
pH	SM 4500-H	N
Phosphorus, total	HACH 8190	N

Residue-nonfilterable (TSS)	SM 2540 D	N
Residue-volatile	EPA 160.4	N
Solids, Total Suspended	SM 2540 D	N
Microbiology		
Parameter name	**Method**	**Matrix ***
Fecal Coliforms	SM 9222 D	N
Physical		
Parameter name	**Method**	**Matrix ***
pH	SM 4500-H	N
* Matrix key: D = drinking water; N = non-potable water; S = solids/chem materials; A = air		

LLSWD contracts with commercial laboratories for other parameters not listed above. Minimum Detection Limits (MDL) studies are performed as per 40 CFR part 136. Permit appendix A lists recommended analytical protocols. Because of the significance of nutrient (phosphorus and ammonia) monitoring to the DO TMDL, the permit appendix A recommended analytical protocol for total phosphorus is the required protocol and must have a required reporting limit of at least 5 ug/L. The recommended analytical protocol for total ammonia (as N) in Appendix A is the required protocol and must have a required reporting limit of 50 ug/L.

V. OTHER PERMIT CONDITIONS

N. REPORTING AND RECORDKEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

O. PREVENTION OF FACILITY OVERLOADING

Overloading of the treatment plant is a violation of the terms and conditions of the permit. To prevent this from occurring, RCW 90.48.110 and WAC 173-220-150 require the Permittee to take the actions detailed in proposed permit requirement S.4 to plan expansions or modifications before existing capacity is reached and to report and correct conditions that could result in new or increased discharges of pollutants.

P. RECLAMATION AND REUSE

The Managed Implementation Plan envisions reclamation and reuse as being integral to the long term success of the Spokane River DO TMDL. The proposed permit will have two reuse sections.

The first permit section for Reclamation and Reuse will be for small scale pilot and demonstration project(s) to test the feasibility of a reclamation and reuse proposal.

Typically small scale pilot projects have received dual agency oversight through the engineering review and approval process with appropriate follow up and reporting of the project. That process will be kept in place for this permit.

The second permit section will be for long term implementation of successful demonstrations of reclamation and reuse pilot projects. The proposed section will include the general elements of current reclamation permit requirements developed by the Departments of Health and Ecology for other reclamation and reuse facilities. When the Permittee is ready to implement the proposal, a request will be submitted to the Departments of Health and Ecology for review and potential approval. Following approval, the permit will be reopened and modified to include appropriate monitoring schedule, water quality limitations, reliability requirements, operation and maintenance requirements and reporting.

Q. OPERATION AND MAINTENANCE (O&M) – MANUAL UPDATE

The proposed permit contains condition S5. as authorized under RCW 90.48.110, WAC 173-220-150, Chapter 173-230 WAC, and WAC 173-240-080. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

R. RESIDUAL SOLIDS HANDLING

To prevent water quality problems the Permittee is required in permit condition S7. to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and State Water Quality Standards.

The final use and disposal of biosolids from this facility is regulated by U.S. EPA under 40 CFR 503, and by Ecology under Chapter 70.95J RCW and Chapter 173-308 WAC. The disposal of other solid waste is under the jurisdiction of the Spokane County Health Department.

Waste activated sludge is dried onsite using a filter press and hauled off-site. The district's goal is to meet the federal 503 regulations for Class B biosolids, and dispose of the material at the lowest effective cost to the district and the rate payers.

S. PRETREATMENT

Federal and State Pretreatment Program Requirements

Under the terms of the addendum to the "Memorandum of Understanding between Washington Department of Ecology and the United States Environmental Protection Agency, Region 10" (1986), the Department of Ecology (Department) has been delegated authority to administer the Pretreatment Program (i.e. act as the Approval Authority for oversight of delegated Publicly Owned Treatment Works (POTWs))**.**

Under this delegation of authority, the Department has exercised the option of issuing wastewater discharge permits for significant industrial users discharging to POTWs which have not been delegated authority to issue wastewater discharge permits.

There are a number of functions required by the Pretreatment Program which the Department is delegating to such POTWs because they are in a better position to implement the requirements (e.g. tracking the number and general nature of industrial dischargers to the sewerage system). The requirements for a Pretreatment Program are contained in Title 40, part 403 of the Code of Federal Regulations. Under the requirements of the Pretreatment Program (40 CFR 403.8(f)(1)(iii)), the Department is required to approve, condition, or deny new discharges or a significant increase in the discharge for existing significant industrial users (SIUs) (40 CFR 403.8 (f)(1)(i)).

The Department is responsible for issuing State Waste Discharge Permits to SIUs and other industrial users of the Permittee's sewer system. Industrial dischargers must obtain these permits from the Department prior to the Permittee accepting the discharge (WAC 173-216-110(5)). (Industries discharging wastewater that is similar in character to domestic wastewater are not required to obtain a permit. Such dischargers should contact the Department to determine if a permit is required.). Industrial dischargers need to apply for a State Waste Discharge Permit sixty days prior to commencing discharge. The conditions contained in the permits will include any applicable conditions for categorical discharges, loading limitations included in contracts with the POTW, and other conditions necessary to assure compliance with State water quality standards and biosolids standards.

Wastewater Permit Required

RCW 90.48 and WAC 173-216-040 require SIUs to obtain a permit prior to discharge of industrial waste to the Permittee's sewerage system. This provision prohibits the POTW from accepting industrial wastewater from any such discharger(s) without authorization from the Department.

Requirements for Routine Identification and Reporting of Industrial Users

The NPDES permit requires non-delegated POTWs to "take continuous, routine measures to identify all existing, new, and proposed SIUs and potential significant industrial users (PSIUs) discharging to the Permittee's sewerage system." Examples of such routine measures include regular review of business tax licenses for existing businesses and review of water billing records and existing connection authorization records. System maintenance personnel can also be diligent during performance of their jobs in identifying and reporting as-yet unidentified industrial dischargers. Local newspapers, telephone directories, and word-of-mouth can also be important sources of information regarding new or existing discharges. The POTW is required to notify an industrial discharger, in writing, of their responsibilities regarding application for a State waste discharge permit and to send a copy of the written notification to the Department. The Department will then take steps to solicit a State Waste Discharge Permit application.

Requirements for Performing an Industrial User Survey

An Industrial User Survey is used to develop a list of SIUs and PSIUs, and of equal importance, to provide sufficient information about industries which discharge to the POTW, to determine which of them require issuance of State waste discharge permits or other regulatory controls. An Industrial User Survey is an important part of the regulatory process used to prevent interference with treatment processes at the POTW and to prevent the exceedance of water quality standards. The Industrial User Survey also can be used to contribute to the maintenance of sludge quality, so that sludge can be a useful biosolids product rather than an expensive waste problem. An Industrial User Survey is a rigorous method for identifying existing, new, and proposed significant industrial users and potential significant industrial users. A complete listing of methodologies is available in the Department of Ecology guidance document entitled "Conducting an Industrial User Survey".

Duty to Enforce Discharge Prohibitions

This provision prohibits the POTW from authorizing or permitting an industrial discharger to discharge certain types of waste into the sanitary sewer. The first portion of the provision prohibits acceptance of pollutants which cause pass through or interference. The definitions of pass through and interference are in Appendix B of the fact sheet.

The second portion of this provision prohibits the POTW from accepting certain specific types of wastes, namely those which are explosive, flammable, excessively acidic, basic, otherwise corrosive, or obstructive to the system. In addition wastes with excessive BOD, petroleum based oils, or which result in toxic gases, are prohibited to be discharged. The regulatory basis for these prohibitions is 40 CFR Part 403, with the exception of the pH provisions which are based on WAC 173-216-060.

The third portion of this provision prohibits certain types of discharges unless the POTW receives prior authorization from the Department. The discharges include cooling water in significant volumes, stormwater and other direct inflow sources, and wastewaters significantly affecting system hydraulic loading, which do not require treatment.

Support by the Department for Developing Partial Pretreatment Program by POTW

The Department has committed to providing technical and legal assistance to the Permittee in fulfilling these joint obligations, in particular assistance with developing an adequate sewer use ordinance, notification procedures, enforcement guidelines, and developing local limits and inspection procedures.

Local Sewer Ordinance

The permit will require the sewer and water district to review its local limits and its local sewer ordinance and submit any updates or amendments that are made. The Permittee will be required to update the local limits ordinance by March 1, 2011 and the local sewer ordinance by October 15, 2011.

T. GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual municipal NPDES permits issued by the Department.

VI. PERMIT ISSUANCE PROCEDURES

U. PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards, Sediment Quality Standards, or Ground Water Standards, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

V. RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this permit be issued for five years.

VII. REFERENCES FOR TEXT AND APPENDICES

Foundational Concepts for the Spokane River TMDL Managed Implementation Plan. June 30, 2006.

Spokane River and Lake Spokane (Long Lake) Dissolved Oxygen Total Maximum Daily Load – draft Water Quality Improvement Report. Revised February 2010. Ecology Publication No. 07-10-073

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Metcalf and Eddy.1991. Wastewater Engineering, Treatment, Disposal, and Reuse. Third Edition.

Tsivoglou, E.C., and J.R. Wallace. 1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

Laws and Regulations
(http://www.ecy.wa.gov/laws-rules/index.html)

Permit and Wastewater Related Information
(http://www.ecy.wa.gov/programs/wq/wastewater/index.html)

Washington State Department of Ecology. 1994. Permit Writer's Manual. Publication Number 92-109. (2002 Revision)

Wright, R.M., and A.J. McDonnell. 1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

Michael Kennedy Consulting Engineers. 1982. Operation and Maintenance Manual for Wastewater Treatment Facilities, Liberty Lake Sewer District, Liberty Lake, Washington. February.

Michael Kennedy Consulting Engineers. 1980. Contract Documents for Liberty Lake Wastewater Treatment Facilities, Phase VII. August.

Century West Engineering. 2001. Facilities Plan for the Liberty Lake Wastewater Treatment Facility. May.

Washington State Department of Ecology. Publication No. 02-03-045. Results and Recommendations from Monitoring Arsenic Levels in 303(d) Listed Rivers in Washington. October 2002.

Washington State Department of Ecology. 2002. Spokane Area Point Source PCB Survey, May 2001. Publication No. 02-03-009.

Washington State Department of Ecology. 1999. Spokane River Dissolved Metals Total Maximum Daily Load – Submittal Report. May. Publication No. 99-49-WQ.

Washington State Department of Ecology. 1998. Cadmium, Lead, and zinc in the Spokane River; Recommendations for Total Maximum Daily Loads and Waste Load Allocations. September. Publication No. 98-329.

Washington State Department of Ecology. 1996. Implementation Guidance for the Ground Water Quality Standards. April. Publication No. 96-02.

APPENDIX A - PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

The Department published a Public Notice of Draft (PNOD) on September 5, 2007, in the Spokesman Review to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office or on Ecology's web site.

A second Public Notice of Draft (PNOD) was published on April 4, 2008, in the Spokesman Review, to inform the public that a revised draft permit with revised discharge limitations was available for review. Interested persons are invited to submit written comments regarding the changes to the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below or found on Ecology's web site at http://www.ecy.wa.gov/programs/wq/permits/eastern_permits.html.

Additionally, a third Public Notice of Draft Permit was published on October 5, 2010 in the Spokesman Review, with another thirty day comment period following.

Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
4601 N. Monroe Street
Spokane, WA 99205

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and the reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone at (509) 329-3455 or by writing to the address listed above.

This permit and fact sheet were written by Richard A. Koch, P.E., Ecology's permit manager for the Liberty Lake Sewer and Water District.

APPENDIX B - GLOSSARY

Acute Toxicity - The lethal effect of a pollutant on an organism that occurs within a short period of time, usually 48 to 96 hours.

AKART - An acronym for "all known, available, and reasonable methods of prevention, control, and treatment".

Ambient Water Quality - The existing environmental condition of the water in a receiving water body.

Ammonia - Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation - The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month (except in the case of fecal coliform). The daily discharge is calculated as the average measurement of the pollutant over the day.

Average Weekly Discharge Limitation - The highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. The daily discharge is calculated as the average measurement of the pollutant over the day.

Best Management Practices (BMPs) - Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD_5 - Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass - The intentional diversion of waste streams from any portion of a treatment facility.

Chronic Toxicity - The effect of a pollutant on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA) - The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling - A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling - A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the percent removal requirement. Additional sampling may be conducted.

Composite Sample - A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing a minimum of four discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Continuous Monitoring - Uninterrupted, unless otherwise noted in the permit.

Critical Condition - The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor - A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report - A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria - Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample - A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial User - A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial Wastewater - Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Interference - A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal and;

Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Maximum Daily Discharge Limitation - The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL) - The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility - A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone - A volume that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in State regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES) - The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

Pass Through - A discharge which exits the POTW into waters of the-State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

pH - The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Potential Significant Industrial User - A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

a. Exceeds 0.5 % of treatment plant design capacity criteria and discharges <25,000 gallons per day or;

b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

The Department may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation Level (QL) - A calculated value five times the MDL (method detection level).

Significant Industrial User (SIU) -

1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;

2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

   Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

   *The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

State Waters - Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, wetlands, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Technology-Based Effluent Limit - A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS) - Total suspended solids are the particulate materials in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Upset - An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-Based Effluent Limit - A limit on the concentration or mass of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C - SUPPORTING DOCUMENTS AND TECHNICAL CALCULATIONS

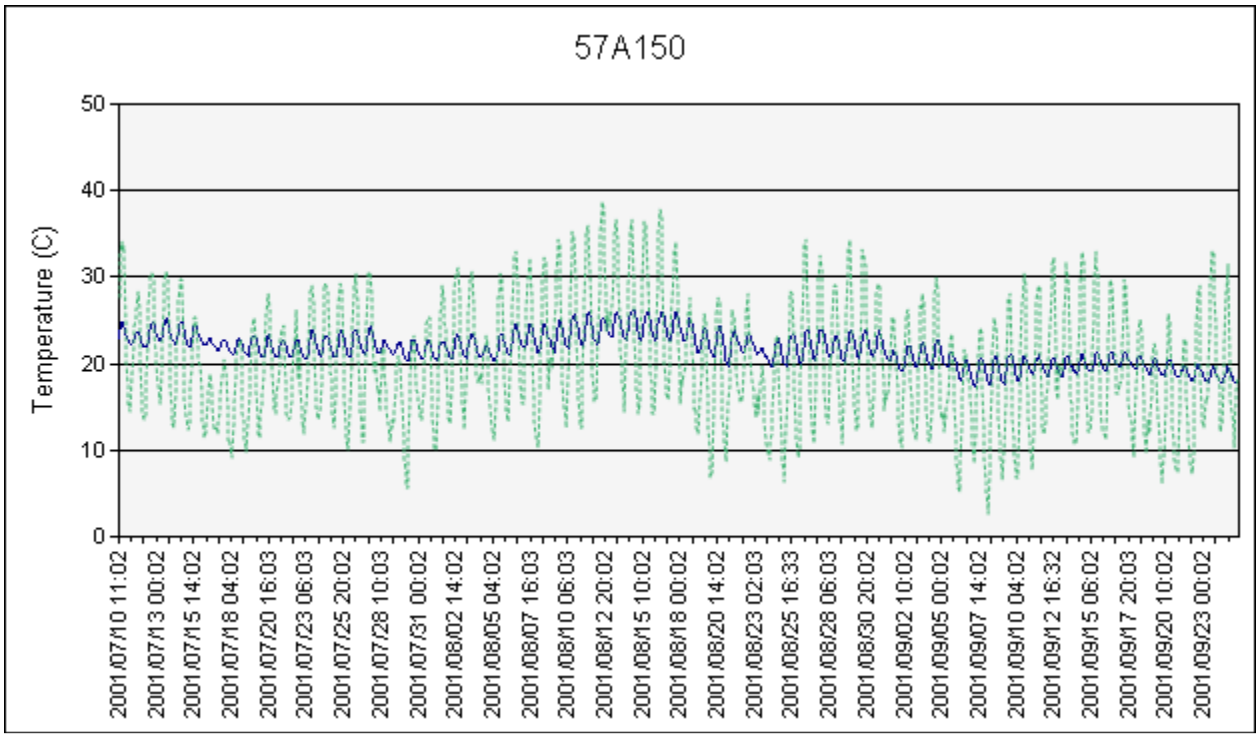
Several of the Excel® spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards can be found on the Department's homepage at (http://www.ecy.wa.gov/programs/wq/wastewater/index.html

The spreadsheets and associated values used to evaluate reasonable potential and determine water quality-based limits for this permit are attached.

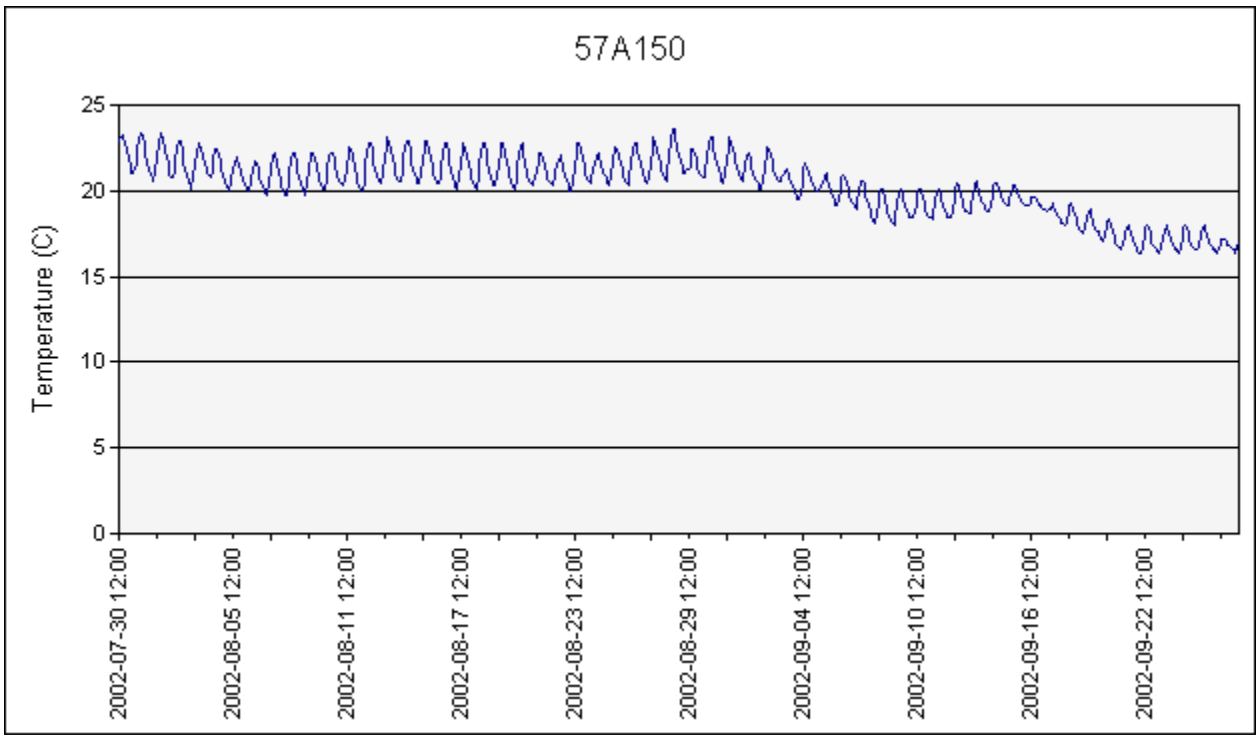
Effluent A.M. Grab Temperature Results for Liberty Lake WWTF, degrees C

	JAN 06	FEB 6	MARCH 06	APRIL 06	MAY 06	JUNE 06	JULY 06	AUG 06	SEPT 06	OCT 06	NOV 06	DEC 06
	12.6	10.8	11.2	11.9	14.0	17.6	20.6	20.7	18.6	17.6	15.5	12.5
	11.2	10.8	11.0	12.4	14.1	18.3	21.5	20.9	20.2	20.4	15.1	13.0
	12.5	10.8	10.3	12.4	14.1	17.9	21.4	21.2	21.3	19.2	15.1	13.3
	11.5	10.0	11.5	12.8	13.9	18.2	20.8	21.1	21.3	19.3	16.7	12.9
	11.3	11.0	11.4	11.5	14.1	18.6	21.1	21.0	21.5	20.2	17.9	12.9
	11.6	11.3	11.3	12.4	14.0	18.6	21.3	21.6	20.9	18.4	17.9	12.9
	11.7	11.2	9.7	12.3	14.5	18.1	21.0	21.7	21.0	18.4	16.6	13.2
	11.1	10.9	10.0	12.2	14.7	18.5	20.6	21.6	20.9	18.0	16.8	13.4
	11.3	11.2	10.2	12.9	15.3	19.0	19.8	20.8	20.6	17.8	14.9	12.1
	11.2	10.9	10.4	13.1	15.0	18.6	20.7	20.9	19.9	18.1	15.2	10.1
	11.1	10.7	10.1	12.5	15.9	17.7	20.6	21.4	19.3	17.9	15.2	11.3
	10.6	10.9	10.1	12.6	16.6	18.0	21.0	21.1	19.6	18.2	14.9	11.3
	10.9	9.5	10.9	12.2	16.9	18.2	22.4	21.6	19.6	18.0	14.9	11.5
	10.9	9.6	10.7	12.5	17.1	18.2	21.5	21.8	19.4	17.6	15.1	12.1
	10.4	10.6	11.8	13.7	17.3	18.7	22.6	21.3	19.1	15.7	14.0	11.8
	10.9	10.7	11.7	13.0	17.6	18.6	22.7	22.1	19.5	16.7	14.9	11.5
	10.7	11.0	11.5	13.7	17.7	19.2	22.7	21.5	19.6	17.4	14.8	11.5
	10.8	10.9	11.6	13.7	17.9	20.0	22.6	21.1	19.7	17.2	13.4	11.8
			11.1	13.8	17.9	20.4	22.4	21.3	19.9	17.3	13.3	
			11.3	14.2	17.0	20.6		21.2	20.2	17.3	13.0	
			11.8		16.6	20.5		21.7		16.8	12.7	
			12.1		17.1	20.2		20.2		18.1		
			12.2					19.9				
MIN	10.4	9.5	9.7	11.5	13.9	17.6	19.8	19.9	18.6	15.7	12.7	10.1
MAX	12.5	11.3	12.2	14.2	17.9	20.6	22.7	22.1	21.5	20.4	17.9	13.4
AVG	11.2	10.7	11.0	12.8	15.9	18.8	21.4	21.2	20.1	18.0	15.1	12.2

For the year 2001 at the State Line Ambient Monitoring Station



For the year 2002 at the State Line Ambient Monitoring Station



Reasonable Potential Spreadsheet Input for Dilution Calculation

Effluent and Receiving Water Critical Conditions

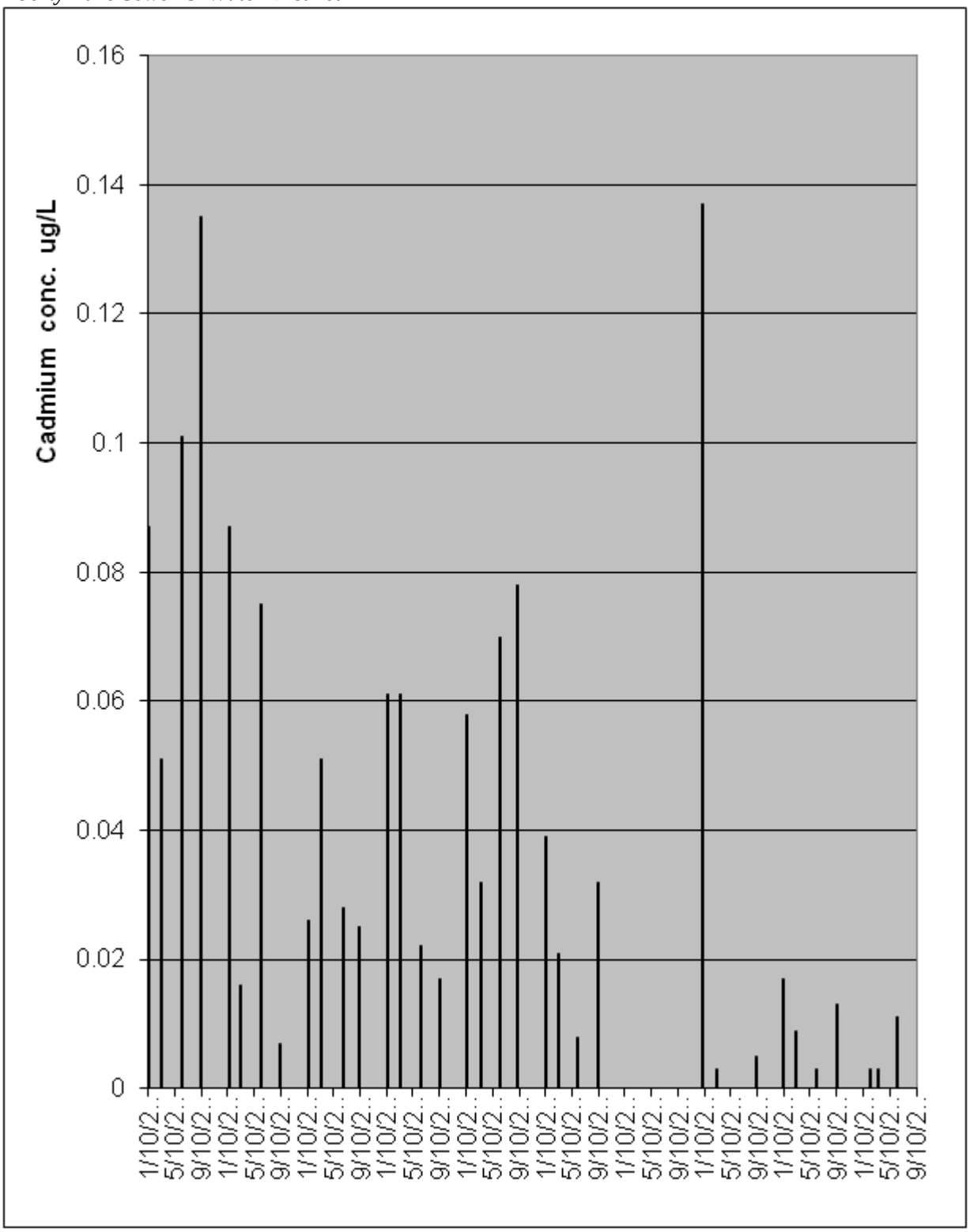
Facility:	LLSWD WWTP			Design Case:	summer		
Receiving Water:	Spokane River						
	Effluent Data			Receiving Water Data			
CLICK HERE FOR INSTRUCTIONS	Annual Average Flow	Monthly Average Flow	Daily Maximum Flow	7Q10 Critical Flow	30Q5 Critical Flow	Harmonic Mean Flow	%flow for dilution
Flow (MGD)	1.50	2.00	2.50	169.33	237.02	1295.19	25
(cfs)	2.32	3.09	3.87	262.00	366.73	2004.00	
Critical Temp (°C)	21.00			22.70			
(°F)	69.8			72.9			
Critical Hardness (mg/L CaCO3)	103.00	Effluent Data		24.00	Receiving Water Data		
Critical pH (s.u.)	7.00	←		8.18	←		
Critical Alkalinity (mg/L as CaCO3)	140.00			19.00			
Enter own pH & Temp for Ammonia Criteria?	n			Enter own Dilution Factors (DFs)?		n	
	pH	Temp (°C)			Acute DF		
@ Acute Boundary					Chronic DF		
@ Chronic Boundary					Human Health (non C) DF		
					Human Health (Carcn) DF		
	@ Acute Boundary	@ Chronic Boundary	Whole River Dilution (@ 7Q10 Flow)	@ 30Q5 River Flow (non C)	@Harmonic Mean River Flow (Carcn)		
Dilution Factor	2.69	22.17	85.67	30.63	216.86		
(% effluent)	37.13	4.51	1.17	3.27	0.46		
Hardness	53.33	27.56	24.92	-	-		
Alkalinity	63.93	24.46	20.41	-	-		
Max pH (s.u.)	7.08	7.50	7.85	-	-		
Max Temp (°C)	22.07	22.62	22.68	-	-		
Max Temp (°F)	71.72	72.72	72.82	-	-		

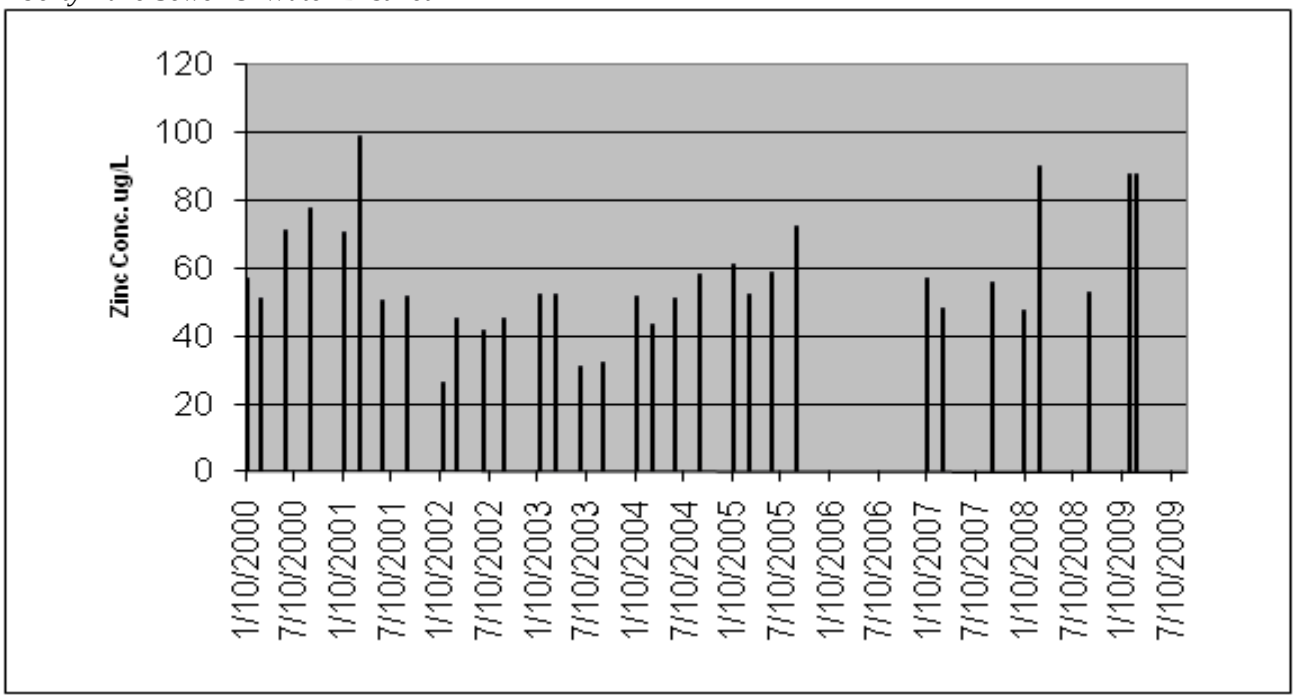
CALCULATED OUTPUT FROM TSDCALC

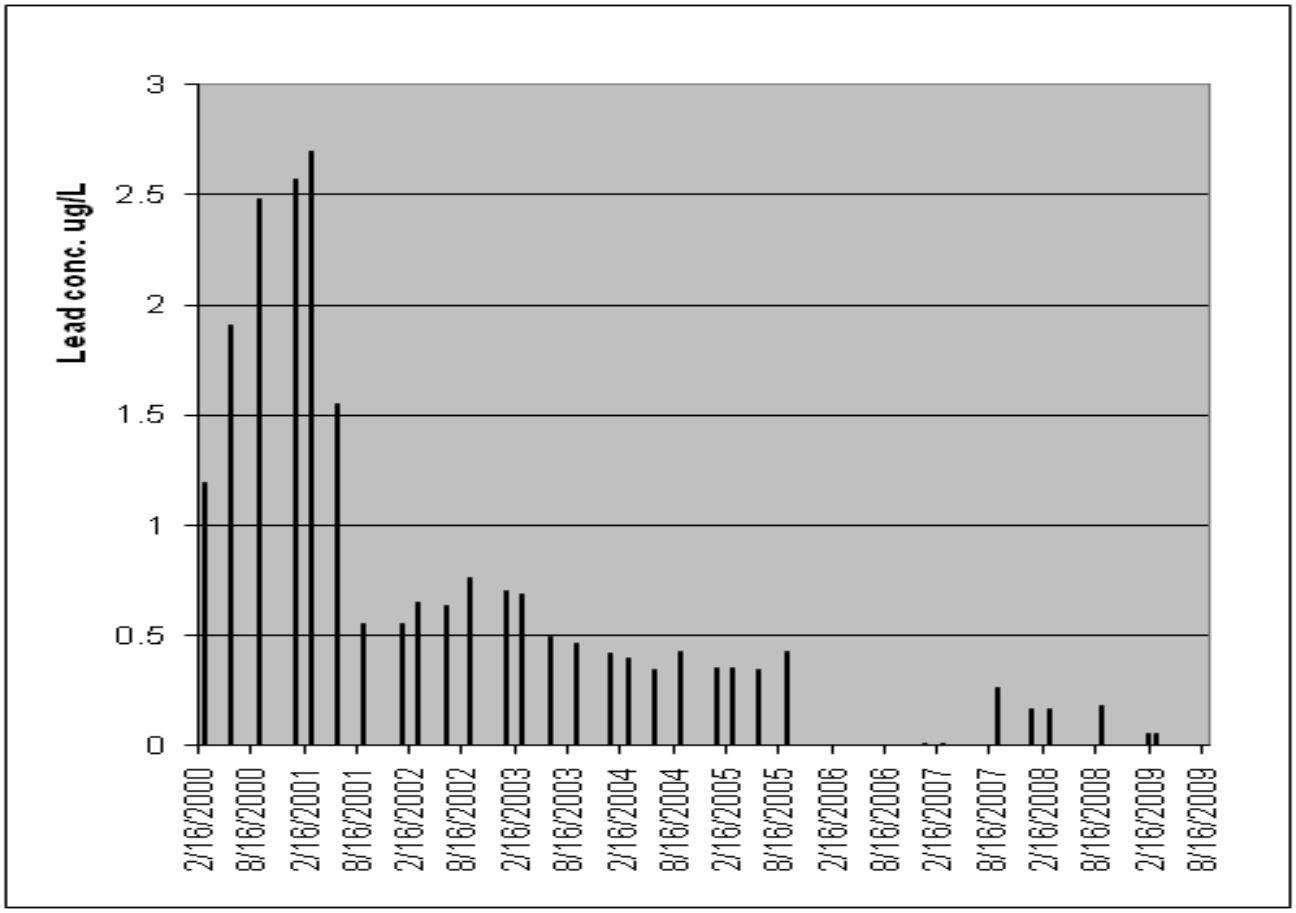
With LLSWD maximum months flows at 1.5 MGD
River flows are 262 cfs at Harvard Road.
Per the Spokane River TMDL effluent hardness is used with no dilution, the hardness is 103 mg/L $CaCO_3$. Metals sampling is quarterly so fewer than 20 metals results are available for facility being permitted. The CV is 0.6 until sufficient data is available.

Dilution (Dil'n) factor is the inverse of the percent effluent concentration at the edge of the acute or chronic mixing zone.

	Permit Limit Calculation Summary										Waste Load Allocation (WLA) and Long Term Average (LTA) Calculations							Statistical variables for permit limit calculation				
	Acute Dil'n Factor	Chronic Dil'n Factor	Metal Criteria Translator Acute	Metal Criteria Translator Chronic	Ambient Concentration	Water Quality Standard Acute	Water Quality Standard Chronic	Average Monthly Limit (AML)	Maximum Daily Limit (MDL)	Comments	WLA Acute	WLA Chronic	LTA Acute	LTA Chronic	LTA Coeff. Var. (CV)	LTA Prob'y Basis	Limiting LTA	Coeff. Var. (CV)	AML Prob'y Basis	MDL Prob'y Basis	# of Samples per Month	
PARAMETER			Acute	Chronic	ug/L	ug/L	ug/L	ug/L	ug/L		ug/L	ug/L	ug/L	ug/L	decimal	decimal	ug/L	decimal	decimal	decimal	n	
Lead	1.0	1.00	0.787	0.787	0.39	66.69	2.60	**3.7**	**5.4**		67	2.60	21.4	1.4	0.60	0.99	1.4	0.60	0.95	0.99	1.00	0.79
Zinc	1.0	1.00	0.996	0.996	50.87	117.35	107.16	**80.8**	**117.8**		117	107.16	37.7	56.5	0.60	0.99	37.7	0.60	0.95	0.99	1.00	1.00


Cadmium conc. ug/L
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
1/10/2..
5/10/2..
9/10/2..


Zinc Conc. ug/L
120
100
80
60
40
20
0
1/10/2000
7/10/2000
1/10/2001
7/10/2001
1/10/2002
7/10/2002
1/10/2003
7/10/2003
1/10/2004
7/10/2004
1/10/2005
7/10/2005
1/10/2006
7/10/2006
1/10/2007
7/10/2007
1/10/2008
7/10/2008
1/10/2009
7/10/2009


Lead conc. ug/L
3
2.5
2
1.5
1
0.5
0
2/16/2000
8/16/2000
2/16/2001
8/16/2001
2/16/2002
8/16/2002
2/16/2003
8/16/2003
2/16/2004
8/16/2004
2/16/2005
8/16/2005
2/16/2006
8/16/2006
2/16/2007
8/16/2007
2/16/2008
8/16/2008
2/16/2009
8/16/2009

APPENDIX D - RESPONSE TO COMMENTS

Comments on the draft Permit and Fact Sheet were received during the 30 day public comment period and responses are in preparation:

The Commenter's were:

The Liberty Lake Sewer & Water District
The Spokane Tribes
Sierra Club Upper Columbia River Group
Avista
Ken Carmichael
US EPA Region X
Gonzaga University Legal Assistance
Lake Spokane Association
Angie Dierdorff
Frank Backus

Comments from Liberty Lake Sewer & Water District on the Fact Sheet.

1. Page 4- C. "Last compliance Inspection 4/29/2002", the facility has undergone 2 compliance inspections since 4/29/2002, one on 4/25/2008 and again on 8/10/2010.

Response: Correct

2. Page 13-River flow chart should have units shown. (CFS)

Response: Correct, it would have beneficial.

3. Page 16- The District wishes to request a higher monthly average limit for TP by increasing sampling frequency. (Similar to Spokane City)

Response: The Department has discussed this request with the U SEPA and the model will not be rerun for this question.

4. Page 17- The District requests a single seasonal average ammonia limit for the season March 1-October 31.

Response: The definition of seasons was at the request of the dischargers. A model rerun for a single discharger is not contemplated.

5. Page 17- Based on effluent temperatures monitoring, the Fact Sheet indicates that Liberty Lake's effluent "modestly cool the receiving water." With increased flows for the river the District feels that the need for temperature monitoring in the river is unsubstantiated and unnecessary.

Response: It is the responsibility of the discharger to demonstrate no impact with monitoring data.

6. Page 25- There are no "existing limits" for ammonia, the table shows proposed limits in the existing column.

Response: Thank you for commenting on poor table formatting.

7. Appendix C- Dates and values do not seem to coincide with data table of results. (see attachments)

Response: Given the limits of the data summaries in Ecology's data base the comment is likely correct, but misses the point of the data trends.

Page 30- Correct District name is: Liberty Lake Sewer and Water District
Page 30- District's Laboratory is also accredited for total phosphorus testing.
Page 30- The required reporting limit for TP should be 5 ug/l or less.
Page 32- Discussion of treatment of waste activated sludge needs to be updated. The District no longer uses drying beds or on-site storage of biosolids.
Page 34- Please clarify the sentence; "The Department proposes that this limit be issued for almost five years".

Response: The comments on pages 30, 32 and 34 seem to be referring to a previous draft fact sheet not the fact sheet published for public comment.

Comments from Liberty Lake Sewer & Water District on the Permit.

1. Page 5, Page 6, Page 7, Fact Sheet Page 28- There are 3 dates shown for submittal of the Updated Engineering Report; Page 5 shows October 30, 2012; Page 6 indicates October 31, 2011; Page 37 shows October 30, 2012 and the Fact Sheet (page 28) shows October 30, 2012.

Response: The date on page 6 has been revised.

2. Page 5 and Page 24 of 54 S6.H- Development of Local Limits is dependent (in part) on evaluation of plant performance toward reduction of pollutants of concern (e.g., As, Cd, Cr, Cu, CN, Pb, Hg, Ni, Ag, Zn, Mo, Se). Performance for some of these constituents are not routinely tested by plant personnel and may take monitoring to establish. Local Limit Development requirement should be delayed until at least 15 months after final permit is issued to allow time for monitoring and consideration of the results.

Response: While additional time will be granted, it is disappointing to hear that nothing has been done in anticipation of a requirement that should have been anticipated.

3. Page 5 and 39 of 54- Protocols for various testing should be coordinated with and when protocols (or QAPPs) are available from Ecology, with an additional 3 months for adaption to the specific circumstances at LLSWD, Ecology protocols should be made available to LLSWD to assist in development of protocols by the permittee. (Note: web location of "Continuous Temperature Sampling" indicates that document could not be found).

Response: Protocols are available and have been used by other dischargers to submit QAPPs for approval. The protocols have been published and are available at http://www.ecy.wa.gov/biblio/eap.html.

4. Page 5 or 54- S6.D- Date listed for Industrial User Survey submittal of February 15, 2011, does not allow sufficient time for completion. There should be at least 3 months to complete this after the final permit is issued. It would seem appropriate to have the data coincide with submission of the updated Local Sewer Ordinance in October of 2011.

Response: A time extension will be made to October 2011.

5. Page 5 of 54-S8.A- Submittal dates do not correspond with dates mentioned in the narrative (page 25 of 54). As both WET testing and priority pollutant scans are scheduled for the same years (footnote C page 10 of 54). To lessen the additional financial testing costs placed on the District, it would seem prudent to schedule these events on opposing years. The length of the permit cycle would still allow for 2 separate sampling events during the permit cycle. Locating and obtaining quotes for WET testing is much more involved, we would request that the WET testing submittal dates be in 2012 and 2014 and priority scans be completed in 2011 and 2013.

Response: A correction has been made.

6. Page 5 of 54-S13- Narrative (page 40 of 54) has submittal of application for new permit as 1/15/15, should this not be listed in submittal date column?

Response: The submittal date was on the wrong row. The correction has been made.

7. Page 6- In previous discussions with WSDOE staff, the District was told that the treatment plant upgrades were approved for a 2 MGD capacity and that the facility would be permitted for 2 MGD upon completion and approval of the Dissolved Oxygen TMDL for the Spokane River. The District has expended large sums of money to upgrade the treatment facility to provide a capacity of 2MGD. Based on past discussions between LLSWD and WSDOE and our commitment to providing high quality effluent, we request that the Interim Phase 1 effluent limitations be removed from the permit. The only trigger for Interim Phase 2 Effluent Limitations to come into effect appears to be completion of an Engineering Report or facilities plan which will have no effect on effluent quality. This

requirement is clearly addressed in the compliance schedule, restricting the discharge to 1 MGD is inappropriate and unnecessary.

Response: This requirement is from the original engineering report approval letter and is binding.

8. Page 6, S1.A Page 7, S1.B and Page 8 S1C - "Daily minimum pH of 7.0....." This is a dramatic and disturbing change in the minimum pH level. All previous draft permits have allowed a daily minimum of 6.0 standard units. The Fact Sheet states on page 17, "The technology-based effluent limitations for pH that are defined in rule were placed in the permit". Table 3 of the Fact Sheet (page 6) lists the technology-based limits at 6.0 and 9.0. The surface water quality criteria for the river reach at our discharge point are 6.5 to 8.5 (page 10 of the Fact Sheet). A minimum of 7.0 will result in numerous, unnecessary permit violations for the District (see effluent pH results for 2010). Excursions from the 7.0 minimum are very slight and certainly do not warrant the equipment and chemical expense that will be incurred elevating the effluent pH.

   There is no apparent justification for limiting minimum pH to 7.0. This should be changed to a range of 6.0 to 9.0. (Technology Based Standard) unless there is justification otherwise. Also, the minimum pH shown in the Fact Sheet is 6.8. Addition of alkalinity to adjust pH to 7 or greater would have little, if any, benefit, and would add dissolved solids needlessly. Furthermore, if coagulant is required for additional P removal it is likely that the optimum pH for precipitation will be below 7.0. (Note: Optimum pH for coagulant participation for P removal at Spokane pilot plants is from 6.4 to 6.9)

Response: A water quality based justification is in the fact sheet and derives from the low alkalinity of the river water.

9. Page 6 of 54- Total Ammonia (as NH3-N)- The limit is 1.0 mg/l, design criteria as stated in final facilities plan is 2.0 mg/l.

Response: The requirements of the DO TMDL are binding.

10. Page 7- Loading limits for BOD and TSS are based on 1 MGD not 2MGD. Load limits should be 167 lbs/day Monthly and 250 lbs/day Weekly for BOD & TSS.

Response: The requirements of the DO TMDL are binding.

11. Page 7- Concentration and loading limits for total Phosphorus appear to be based on plant performance in 2008 & 2009 (see Fact Sheet, page 16). It is unreasonable to conclude that the performance of the plant will remain constant as flows increase toward the 2 MGD flow limit. This limit should be based on design criteria approved for the plant as was the BOD and TSS limits. Design criteria for the plant is 2 mg/l Average Monthly (33.4 lbs/day) and 3 mg/l Average weekly (50.1 lbs/day).

Response: The interim limits are performance based. The final limits are from the DO TMDL WLAs and will remain so.

12. Page 7- The average monthly flow should specify maximum month.

Response: Average month is required by rule.

13. Page 7- The CBOD and TSS effluent limits as with Phosphorus, should be seasonal limits based on the DO TMDL with higher limits given for outside the critical season.

Response: The comment is correct. An oversight was made for CBOD and a correction will made based on recent performance to avoid backsliding.

14. Page 7-5-day CBOD- At the plant design capacity of 2.0 MGD, this would be 2.7 mg/l. The proposed limit would require tertiary treatment on a year-round basis. There is no regulatory basis for requiring a year-around limit. The District requests that this limit be footnoted as a seasonal 50th percentile of measurements from March 1st to October 31st (same as for total Phosphorus and Ammonia-Nitrogen). The limit from November 1st to February 28th should be no less than 10 mg/l average monthly and 15 mg/l average weekly which would be a technology-based limit at the design capacity.

Response: See comment immediately above and below.

15. Page 7-Total Suspended Solids- There does not appear to be a regulatory basis for the proposed total suspended solids limits, 5 mg/l average monthly and 7 mg/l average weekly. The proposed limit would require tertiary treatment on a year-around basis. The Fact Sheet appears to be basing these limits on current treatment plant performance and not performance at the design capacity, it is reasonable to assume that the plant will perform at the current level as the flows increase toward plant capacity. The District requests limits of 10 mg/l average monthly and 15 mg/l weekly average.

Response: Correct. Tertiary treatment is required. Bypassing of a treatment unit is not permitted.

16. Page 6, 7 & 8 of 54- Lead (Total Recoverable) & Zinc (Total Recoverable): From our analysis we do not concur with the limits establish in the permit for Lead and Zinc. It appears that these limits were not determined by the procedures outlined in "Cadmium. Lead, and Zinc in the Spokane River, Recommendations for Maximum Daily Loads and Waste Load Allocations.", September 1998. We request that limits be established in accordance with these recommendations. From our analysis (See Esvelt letter dated November 30, 2010) theses limits should be as follows:

	Ave. Monthly	Ave. Weekly
Lead (Total Recoverable)	2.7 µg/L	4.7 µg/L
Zinc (Total Recoverable)	120 µg/L	144 µg/L

Response: These comments were made during factual review. The calculations were checked and will remain as published.

17. Page 7 of 54- Cadmium (Total Recoverable) Effluent discharge levels are so far below draft permit limits, once monthly testing seem to be excessive.

Response: Performance based limits are a reflection of effluent variability. The cadmium concentration has been highly variable. If the results were more reliably uniform the sampling frequency could confidently be less frequent. Presently, less frequent monitoring is not justified.

18. Page 7 of 54- C. Final Effluent Limitations- Description seems to imply that low level phosphorus removal technologies are the only acceptable option. Does this preclude the option of meeting Class A Reclaimed Standards with no seasonal discharge to the river?

Response: Reuse is a desirable option. But not all reuse options are viable in early spring or late fall.

19. Page 7 of 54- CBOD- Fact Sheet mentions that performance based effluent limits will be in place November through February (Page 17). What will those proposed performance based limits be?

Response: See comment above.

20. Page 8- The District requests a single season ammonia limit for March 1-0ctober 31. Ammonia-Nitrogen-The District requests a single seasonal ammonia limit be based on the 50^{th} percentile of the measurements from March1 through October 31^{st} (same as for 5-day CBOD and total Phosphorus) instead of the arithmetic average of the daily data each month due to potential biological process upsets.

Response: The requirements of the seasonal ammonia WLAs of the DO TMDL are binding.

21. Page 8- The District requests that the seasonal average performance for T.P. be calculated from the 50^{th} percentile of the measurements instead of arithmetic mean (same as for 5-Day CBOD and Ammonia-Nitrogen). Total Phosphorus is monitored once per week between March and October which results in approximately 32 data points. One or two days of poor performance could potentially result in an exceedance of the effluent limitation based on the arithmetic mean. A permit limit based on the 50^{th} percentile would provide a better indication of the overall seasonal performance of the phosphorus removal system and would also allow for short-term upsets in the operating system or variations in analytical testing data. Reporting and compliance with statistics that recognize the data distribution would be more meaningful(e.g., log mean or log percentile based on a representative characterization of the distribution of the data).

Response: Compliance is on a seasonal basis. The shorter reporting periods are for trend tracking to spot problems early.

22. Page 8, S1.C- Final TP limits footnote c appears to limit options for removing effluent from the river by reuse. However, reopening permit for reuse may be intended to address this.

Response: Footnote c taken alone could be read that way. But footnote c, is taken jointly with d and e.

23. Page 6,7,8- It is unclear why the schedule for permit compliance (S1.A, S1.B, and S1.C) is shown as it is. Table for S1.B should be applicable for S1.A and S1.B should be eliminated.

Response: S1.B exists because of the change in flow which cannot be authorized until Ecology approves an engineering report for the next level of treatment for phosphorus removal.

24. Page 8- Foot note c appears to be missing item 2) when printed.

Response: Correct due to a typographical error, which has been corrected.

25. Page 9- Since there is no TMDL or limits for arsenic, copper and mercury and the Fact Sheet states "no reasonable potential" for violation, the District requests sampling and testing requirements be eliminated.

Response: Request denied. Local limits are required and data is needed to establish them.

26. Page 10- For the same reasons stated above the District requests sampling and testing for arsenic, copper and mercury be eliminated.

Response: Request denied. It is the obligation of a Permittee to verify that contaminates are not present in sufficient quantity to pollute.

27. Page 10- The sampling frequency for PBDE, PCB's and dioxins is unnecessary and a large financial burden for the District. The test frequencies and detection limits required in the draft NPDES permit for; PBDE, PCB's, and 2,3,7,8 TCDD will result in outside lab costs of $25,300 per year. This is nearly the entire lab testing cost for the entire 2006 year. The only "accredited lab" that the District could find capable of doing these tests is located in Minneapolis. The costs shown do not include shipping costs to the lab (overnight). This lab may not be accredited for all required tests.
This is an enormous additional cost for the District. Costs for this testing could be significantly reduced if the detection limit was raised to 1.0 ug/l and the required frequency was reduced.

Response: Implementation of toxic reduction strategies cannot be pursued without monitoring and verification of toxic reduction progress.

28. Page 10- Base on conclusions discussed in the Fact Sheet, River temperature monitoring is inappropriate and should not be required.

Response: The Permittee is required to verify that water quality standards and beneficial uses are being protected.

29. Page 10-Continuous temperature monitoring in two locations in the river will be very problematic. This section of the river experiences significant fluctuations in water level. A temperature sensor would need to be installed in the main channel to measure low flow temperatures. During high flows the river moves heavy debris and large rock. It is doubtful that t sensor could be installed such that it would remain undamaged. There are no structures immediately upstream of the discharge point or 300 feet below the discharge point on which to attach the sensor. Page 18 of the Fact Sheet states that effluent temperature monitoring through 2008 indicates that temperature of the effluent may actually cool the receiving water during critical river flow conditions. Temperature readings from the effluent support not monitoring river temperatures either side of the discharge point.

Response: The Permittee is required to verify that water quality standards and beneficial uses are being protected. No alternative locations were proposed. No alternative methods were offered. The permit conditions remain as is.

30. Page 11- Reporting limits for T.P. should be 5ug/l or **less.**

Response: Generally speaking that is correct. However, for phosphorus 5ug/L is adequate for verifying compliance with the permit.

31. Page 11- Standard Method Procedure 4500-PF would be approved for compliance. The District requests that Standard Method 3120 Metals by Plasma Emission Spectroscopy also be approved to TP compliance as it is currently only approved for metals.

Response: 3120 is not an approved method. EPA method 200.7 is comparable and used by a few accredited labs. On a case by case basis, if appropriate reporting limits and QA/QC can be demonstrated a request will be considered for accreditation. Liberty Lake Sewer & Water District must demonstrate that TP monitoring is by an accredited method and achieving a 5 ug/L reporting limit.

32. Page 12 or 54- S3.A- Report Submission via hardcopies, we would hope that E-DMR's are still acceptable.

Response: The permit does not specifically require a hard copy for submission, and the department has developed E-DMRs for submission of data on an Ecology approved form.

33. Page 13- The District request that written submission of noncompliance occurrences may be submitted with the subsequent monthly discharge monitoring report, provided the District reports occurrences of non-compliance within 24 hours. This is a small plant with limited staffing. This would give the staff a little more time to file the report.

Response: The permit requires timely reporting. E-mail is a timely alternative written form of communication.

34. Page 15, S4.A- Design Criteria listed are for influent to the treatment facility. The added note regarding flows for the TMDL assumptions is unrelated and should possibly be removed to a different location, or included only in the Fact Sheet.

Response: Thank you for the comment.

35. Page 17- The date of the first wasteload assessment should be March 15, 2011.

Response: Thank you for catching the error. It is March 15, 2011 in the Summary of Scheduled Permit Report Submittals.

36. Page 18, S5.F- Bypass Procedures Type 1 needs better definition. The treatment facility is equipped with multiple units for reliability and redundancy. One or more of these units will be out of service on a routine basis, at least until flow and loading increases, and then on an intermittent basis for maintenance. This should not be considered a "bypass". Record keeping at the plant will allow Ecology or others to determine which units are in operation at any particular time. Mandatory reporting will only cause additional work for treatment plant staff, and for ecology, and should not be required.

Response: The US EPA considers it a bypass and requires the language in S5.F.

37. Page 26- The requirements for ACUTE TOXICITY appear to be standard language if a limit exists; for example there is no discussion for monitoring for compliance with no effluent limit. Six samples in two years is excessive given the higher effluent quality from the upgraded facilities.

Response: The language is standard. While the effluent is expected to be of high quality, the rule does require verification.

38. Page 33- Condition S10 is redundant to the Reclamation and Reuse Standards. The District is not currently reclaiming or reusing treated wastewater. This condition should be removed from the permit in its entirety. There is no regulatory basis for WSDOE and WSDOH approval of engineering reports for pilot projects unless the permittee is proposing to apply treatment methods not outlined in the Water Reclamation Standards or the permittee intends to implement direct recharge. This should be revised in accordance with the Water Reclamation and Reuse Standards or removed all together from the permit.

Response: The statute does require a permit for reclamation and reuse. The District has repeatedly expressed its intent to use reclamation and reuse as a discharge option. The law does require engineering review by both Ecology and DOH.

37. Page 39 of 54- S12.B "submit the City's draft for review" change to District's.

Response: The correction has been made.

39. Appendix A- Procedure for ortho-phosphate phosphorus and for total phosphorus recommends Standard Methods 4500-PE/PF with detection level (DL) of 3 ug/l and a quantitation level (QL) of 10. Since the Spokane Pilot project has identified that this procedure may not be sufficient to measure down to the levels indicated, and may not be appropriate for these analyses, different procedures may be more applicable. We recognize that these are recommended procedures. An appropriate procedure for identification and approval of a more representative procedure and its definition is needed.

Response: Footnote h in S2 is based on feedback from Ecology's Manchester lab and is intended to supplement Appendix A which always applicable to the needs of the Spokane River TMDLs and compliance sampling.

40. General- There is an explanation in some Draft Permits about inclusion of data that is at or below detection limits or reportable limits in "averages". That language is not found in this permit. Initiation of additional phosphorus removal technology will potentially add some data in this category, as could some of the metals and synthetic organics data as it is accumulated. This issue needs some guidance, and potentially some future interpretations as the procedures for this testing are developed.

Response: The explanation is in the fact sheet.

Below: General comments related to Washington's four Spokane River dischargers from University Legal Assistance on behalf of the Spokane Riverkeeper. The Lands Council, the Kootenai Environmental Alliance and the Gonzaga University Legal Assistance Environmental Law Clinic:

UNIVERSITY LEGAL ASSISTANCE
721 North Cincinnati Street
P.O. Box 3528
Spokane, Washington 99220-3528
Phone (509) 313-5791
Facsimile (509) 313-5805
TTY (509) 313-3796

Director
LARRY A. WEISER

Office Manager
JULIE CLAAR

Supervising Attorneys
MICHAEL J. CHAPPELL
GEORGE A. CRITCHLOW
STEPHEN F. FAUST
JENNIFER A. GELLNER
GAIL HAMMER
JOSHUA J. KANASSATEGA
ALAN L. McNEIL
TERRENCE V. SAWYER

JAMES P. CONNELLY
MARK E. WILSON
Of Counsel

SENT VIA EMAIL

November 17, 2010

Permit Coordinator
Department of Ecology
N. 4601 Monroe
Spokane, Washington 99205
stra461@ecy.wa.gov

RE: Comments on Liberty Lake, Inland Empire Paper, the City of Spokane, and Kaiser Aluminum Draft NPDES Permits

Dear Permit Coordinator:

These comments are submitted on behalf of the Spokane Riverkeeper, The Lands Council, the Kootenai Environmental Alliance, and the Gonzaga University Legal Assistance Environmental Law Clinic, regarding the Department of Ecology's draft National Pollutant Discharge Elimination System ("NPDES") permits for Liberty Lake Sewer and Water District ("Liberty Lake"), the City of Spokane ("City"), Inland Empire Paper ("IEP"), and Kaiser Aluminum (collectively referred to as the "Dischargers"). We thank you for this opportunity to provide comments on the four draft permits (collectively referred to as the "Draft Permits"). Please include these comments as part of the administrative record for each of the Draft Permits.

As you know, these groups have dedicated significant time and resources to protect and restore the Spokane River, including participation in all aspects of the development and/or implementation of the DO TMDL. The development of appropriate effluent limits in the Draft Permits is a vital component of both implementing the DO TMDL and increasing the amount of dissolved oxygen in the Spokane River and Lake Spokane. Phosphorus, the nutrient with the greatest effects on dissolved oxygen levels along the Spokane River, accelerates the growth of algae and other aquatic plants. This results in reduced oxygen levels which can be harmful to fish and other aquatic species, outbreaks of toxic blue-green algae blooms which can be harmful to human health, and an increased potential for violations of water quality standards. Accordingly, we would like to continue to work closely with Ecology toward the finalization of these permits.

SR-1

The Spokane River is listed on Washington's § 303(d) list for a number of parameters, including dissolved oxygen, total dissolved gas, PCBs, temperature, and dioxin. Designation of a waterbody pursuant to § 303(d) of the Federal Water Pollution Control Act ("Clean Water Act" or "CWA" or "the Act") means that current wastewater technologies and other pollution control activities, such as Best Management Practices ("BMPs") for stormwater and/or non-point sources, are insufficient to protect the health of the Spokane River, and that more stringent measures must be applied to meet Washington State water quality standards. 33 U.S.C. §§

SR-1 (con'd) 1313(d), 1329; 40 C.F.R. § 130.7. As a result, Ecology must ensure that the Draft Permits include effluent limits for PCBs, ammonia, phosphorus, temperature, dioxin, CBOD, and other parameters that will be sufficiently protective of Washington State's, and the Spokane Tribe's, water quality standards.

General Comments Applicable to Each of the Draft Permits

1. Permit Limits for PCBs must be Water Quality-Based not Technology or Performance Based.

SR-2 Section 303(d) of the Clean Water Act, 33 U.S.C. § 1313(d), requires the imposition of a TMDL where technology-based effluent limitations are not stringent enough to implement any applicable water quality standard. 33 U.S.C. § 1313(d)(1)(A). Moreover, the Act prohibits permits for discharges that cause or contribute to an exceedence of water quality standards. 33 U.S.C. § 1311(b)(1)(c); 40 C.F.R. § 122.44(d); 40 C.F.R. § 122.4; *see also*, RCW 90.48.520; WAC 173-226-070.

In addition to the conditions established under 40 C.F.R. § 122.43(a), each NPDES permit shall include conditions meeting the following requirements when applicable:

> Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318, and 405 of CWA necessary to:
>
> (1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

40 C.F.R. § 122.44(d)

Ecology's draft PCB TMDL[1] indicates that standards are not being met, that each of the Dischargers contributes to the problem, and that drastic reductions in PCBs are required to meet these standards. The draft PCB TMDL states:

> A PCB loading scenario was proposed based on meeting the Spokane Tribe water criterion for PCBs (3.37 pg/l). The scenario requires a 95% PCB load reduction at the Idaho border, a 97% load reduction in the Little Spokane River, and ≥99% reductions in municipal, industrial, and stormwater discharges.

Draft PCB TMDL at 9.

SR-3 The Draft Permits ignore the 21 separate studies that made up the draft PCB TMDL, and continue to pretend that PCBs can be addressed via BMPs and further monitoring and reporting.[2]

[1] Available at http://www.ecy.wa.gov/pubs/0603024.pdf.
[2] The exception is the Draft Permit for Kaiser, which contains a performance based limit. The Kaiser draft permit will be discussed in more detail below.

SR-4 Instead of effluent limits, the Draft Permits indicate that, "EPA rules (40 C.F.R. Subpart K (44 FR 32954-5)) do provide for the use of narrative limitations (BMPs) rather than numeric effluent limitations." Ecology's assertion is incorrect. The Fact Sheets appear to be referring to 40 C.F.R. § 122.4(k), which lists circumstances where BMPs may be used to control or abate the discharge of pollutants:

> (1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;
>
> (2) Authorized under section 402(p) of the CWA for the control of storm water discharges;
>
> (3) Numeric effluent limitations are infeasible; or
>
> (4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

Id.

SR-5 Ecology seems to misunderstand this provision. This provision is intended as a means to implement effluent limitations, which do not currently exist. Alternatively, Ecology must demonstrate that numeric limitations are infeasible. Ecology has not shown that numeric limits are infeasible, and stated at the public hearing that the narrative limits were meant to "buy time" for the Dischargers. Moreover, the Draft Permits do not explain what BMPs exist for PCBs other than monitoring. No BMPs are listed in the Draft Permits. Monitoring alone is insufficient to create a reduction in PCBs.

SR-6 **Recommendation:** To be lawful, the Draft Permits must contain a date certain for achievement of the appropriate WQBELs for PCBs and those WQBELs must be included in all the Draft Permits. As the Environmental Groups explained at the public hearing, this would benefit each of the Dischargers because Ecology could then provide them with a compliance schedule. Without a compliance schedule, each of the Dischargers are open to Clean Water Act citizen enforcement actions, for discharging PCBs in violation of water quality standards.

2. The Draft Permit Does Not Contain Clear Conditions Requiring Compliance with State Water Quality Standards.

Pursuant to the Federal regulations implementing the NPDES program, permit issuers must determine whether a given point source discharge "causes, has the reasonable potential to cause, or contributes to" an exceedance of water quality standards. 40 C.F.R. § 122.44(d)(l)(ii). If a discharge is found to cause, have the reasonable potential to cause, or contribute to such an exceedance, the permit writer must calculate WQBELs for the certain criteria pollutants. 40 C.F.R. § 122.44(d)(l)(i), (iii)-(vi).

Similarly, in Washington, RCW 90.48.520 requires that: "In no event shall the discharge of toxicants be allowed that would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria." State NPDES and general permit regulations require permits, "whenever applicable," to include "limitations or requirements" necessary to "meet water quality standards." WAC 173-226-070(3) (a); WAC 173-220-130(1) (b) (i).

The Washington Supreme Court, in *Port of Seattle v. Pollution Control Hearings Bd.*, 151 Wash.2d 568, 603 (Wa. 2004), explained this requirement as follows:

> NPDES permits may be issued only where the discharge in question will comply with State water quality standards. 33 U.S.C. § 1342(b)(1)(A) requires State-issued NPDES permits to comply with 33 U.S.C. § 1311. In turn, 33 U.S.C. § 1311(b)(1)(C) requires effluent limitations to comply with State water quality standards. In addition, 40 C.F.R. § 122.44 requires State-issued NPDES permits to contain conditions requiring compliance with State water quality standards. 40 C.F.R. § 122.44(d)(1).

SR-7 The Draft Permits fail to clearly establish conditions designed to ensure that discharges do not cause or contribute to violations of water quality standards. Not only is this problematic because it seriously calls into question the legal sufficiency of the Draft Permits, but it leaves the public uncertain as to whether the Draft Permits will adequately protect the chemical and biological integrity of the Spokane River. This deficiency is not cured by the Draft Fact Sheets' acknowledgement that permit conditions must ensure that discharges will meet established water quality standards because the information contained in the Fact Sheets are not enforceable terms of the Draft Permits.

SR-8 **Recommendation:** The Draft Permits must be revised to include language that explicitly indicates the Discharger's obligations to ensure that discharges do not cause or contribute to violations of water quality standards, including an explicit reference to the duty to comply with 40 C.F.R. § 122.44(d)(1). This provision should be located near the beginning of special condition "S1. Discharge Limitations" in the Draft Permits, and/or wherever appropriate throughout the remainder of the Draft Permits.

3. The Permits Lack Lawful Compliance Schedules.

SR-9 The compliance schedule in the Draft Permits indicate that Dischargers will have to meet final WQBELs for total phosphorus, CBOD, and ammonia ten (10) years after the permits effective date. The compliance schedule does not comply with Federal requirements for compliance schedules. Federal regulations require that any appropriate schedules of compliance "shall require compliance as soon as possible." 40 C.F.R. § 122.47(a)(1).

The Clean Water Act defines compliance schedules as "a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition or standard." 33 U.S.C. § 1362(17); 40 C.F.R. §

122.2. Federal regulations require that any appropriate schedules of compliance "shall require compliance as soon as possible, but not later than the applicable statutory deadline under the CWA." 40 C.F.R. § 122.47(a)(1). Under CWA, NPDES permits must be fixed for terms not exceeding five (5) years. 33 U.S.C. § 1342(b)(1)(B); 40 C.F.R. § 122.46(a).

SR-10 A compliance schedule longer than a five-year permit term is inconsistent with the compliance schedules defined by the Clean Water Act. *See Citizens for a Better Environment v. Union Oil Co. of Cal.*, 83 F.3d 1111, 1120 (9th Cir. 1996); *NRDC v. EPA*, 915 F.2d 1314, 1319 (9th Cir. 1990). In *CBE v. Unocal*, the Ninth Circuit warned against extending the terms of permit's beyond their five-year life span. The Court upheld a district court decision finding that a cease and desist order that provided for a compliance schedule longer than the five-year life of the applicable NPDES permit could not be included in the permit because it purported to extend a compliance schedule beyond the term of the permit. 83 F.3d at 1120. The Court held that, "there is a five-year duration on the life of an NPDES permit that the 'effective modification' asserted here would violate." *Id.* Similar to the compliance schedule at issue in *CBE v Unocal*, the ten year compliance schedule set forth in the Draft Permits attempt to extend the Draft Permits' substantive requirements beyond the five-year limit established by the Clean Water Act. *Id.*

SR-11 Moreover, because Federal requirements for the content of State water regulations provide the statutory minimum, while State standards can only be more stringent, not less stringent, than Federal requirements, the Clean Water Act's more restrictive five-year compliance schedule applies to the Draft Permits rather than Washington's less restrictive ten-year compliance schedule. *See* 33 U.S.C. § 1370.

SR-12 Finally, a review of the Draft Permits' compliance schedules illustrates a significant amount of wiggle room in that they include delta elimination plans that are poorly defined and implicitly recognize that a trading program will be implemented, without specifying how permittees are to engage in such a program and how trades might or might not impact compliance with numeric permit limits.

SR-13 **Recommendation:** Ecology's duty here is to condition the Draft Permits so as to achieve compliance with the appropriate WQBELs for phosphorus and other parameters (PCBs, ammonia, CBOD) as soon as possible and in a manner consistent with both Federal and Ecology regulations. Ecology's attempt to issue a schedule that extends compliance beyond the Draft Permits' five-year fixed-term finds no support in the Clean Water Act, and provides a discharger with too much leeway. In order to ensure that the Draft Permits are consistent with the Clean Water Act and furthers the Act's technology-forcing objectives, Ecology must require compliance with final WQBELs within five years of the Draft Permits effective dates.

4. Antidegradation.

Federal regulations require that Ecology's "antidegradation policy and implementation methods shall, at a minimum, be consistent with the following: (1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and

protected." 40 C.F.R. § 131.12(a)(1). Only where the quality of waters exceed levels necessary to support the most sensitive biological beneficial uses is the State allowed to degrade water quality in order to accommodate important socioeconomic development. 40 C.F.R. § 131.12(a)(2). Even where these high quality waters exist, a situation present in this case for some pollutants and parameters, the regulations require that Ecology assures water quality adequate to protect existing uses fully. 40 C.F.R. § 131.12(a)(2).

Although providing a very limited exception allowing some degradation in waters "[w]here the quality of waters exceed levels necessary to support" its beneficial uses, those exceptions do not apply to already degraded waters, such as the waters of the Spokane River because of excessive discharges of phosphorus, CBOD, and ammonia. 40 C.F.R. § 131.12(a)(2). In degraded waters, only the first mandate applies – to maintain and protect all existing uses, especially, for example, trout habitat. Accordingly, the regulations prohibit additional pollutant loads of phosphorus, ammonia, CBOD, and PCBs into the Spokane River.

SR-14

Recommendation: Ecology must explain how it has addressed antidegradation in the Draft Permits.

6. Permits must meet Spokane Tribe's Water Quality Standards

The Clean Water Act prohibits Ecology's issuance of NPDES permits "when the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States."[3] The Draft Permits must therefore require compliance with both Washington and the Spokane Reservation's downstream water quality standards because both are considered affected States. Thus, Ecology must consider the water quality standards of both jurisdictions in making permit decisions.[4]

SR-15

In addition, Federal regulations clearly and unambiguously require Ecology to include in these permits any conditions necessary to achieve the Spokane Tribe's water quality standards, including limitations on all pollutants which Ecology determines will cause or have the reasonable potential to cause or contribute to an excursion above the Tribe's water quality standards.[5]

SR-16

Any NPDES permit issued to a discharger in an upstream jurisdiction must include limitations necessary to comply with the water quality standards of a downstream jurisdiction. *Arkansas v. Oklahoma*, 503 U.S. 91, 107 (1992); *see also Montana v. United States E.P.A.*, 941 F. Supp. 945 (D. Mont. 1996); *City of Albuquerque v. Browner*, 97 F.3d 415 (10th Cir. 1996). Unfortunately, the Draft Permits provide no discussion or analysis of compliance with the Spokane Tribe's water quality standards. It is clear from historical data for PCBs and phosphorous at a minimum that the Tribe's water quality standards are not being met. As illustrated below, data from the Tribe indicates alarming low levels of dissolved oxygen at

SR-17

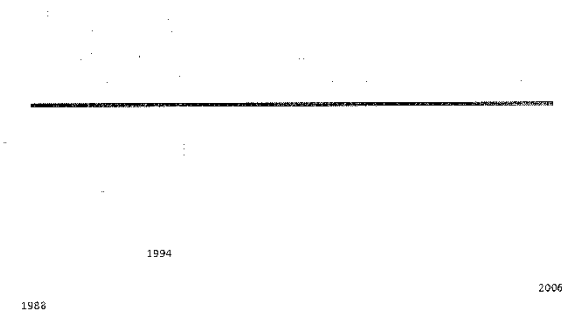
[3] 40 C.F.R. § 122.4 (d).
[4] It is the height of hypocrisy for Ecology to require the Idaho dischargers to meet Washington's downstream water quality standards, but not also require Washington dischargers to meet downstream Tribal water quality standards.
[5] 40 C.F.R. § 122.44(d).

November 17. 2010
Draft NPDES Permit Comments
Page 7

Porcupine Bay on the lower Spokane River. These levels have dipped as low as 0.2 mg/L, significantly below the tribal standard of 8.0 mg/L.[6]

Ranges of DO concentrations at Porcupine Bay

note:



Source: Spokane Tribe

Moreover, as indicated by the draft PCB TMDL[7], the Tribe's PCB standards are not being met. Drastic reductions in PCBs are required to meet these standards. Again, the draft PCB TMDL anticipated compliance with Tribal water quality standards:

> A PCB loading scenario was proposed based on meeting the Spokane Tribe water criterion for PCBs (3.37 pg/l). The scenario requires a 95% PCB load reduction at the Idaho border, a 97% load reduction in the Little Spokane River, and ≥99% reductions in municipal, industrial, and stormwater discharges.

Draft PCB TMDL at 9.

SR-18 **Recommendation:** The Draft Permits lack any analysis of how the permitted discharge may cause or contribute to the DO and PCB problems on the Spokane Reservation. In fact, despite explicit analysis by Ecology indicating a need for significant reduction to meet the Tribe's PCB limits, the permits lack any PCB effluent limits. Legally, Ecology must analyze whether the

[6] Tribal standards are available at http://www.epa.gov/waterscience/standards/wqslibrary/tribes/spokane.pdf.
[7] Available at http://www.ecy.wa.gov/pubs/0603024.pdf.

SR-18 (con'd) Dischargers cause or contribute to a violation on the Spokane Reservation and include water quality-based effluent limits to ensure compliance with those standards.

7. **The Delta Elimination Plan is Poorly Defined and may not be Scientifically or Legally Defensible.**

SR-19 The Draft Permits include delta elimination plans which are not well defined. The plans are intended to allow the Dischargers to get credit for non-point source pollution reductions. In effect, the delta elimination plans establish a trading program, but they lack the requisite details necessary to allow the public to understand and provide input into trades.[8]

SR-20 The Draft Permits do not specify how Dischargers will engage in such a program and how trades might or might not impact compliance with numeric permit limits. The Draft Permits appear to envision that delta elimination will be allowed to help Dischargers meet wasteload allocations, although no specifics are provided regarding exactly how this accounting will be done, and how permit compliance will be monitored. This poorly defined delta elimination plan provides no reasonable assurance that significant reductions of pollutant loading from non-point sources could ever be accomplished or whether the future effluent limitations will ultimately be met.

SR-21 Beyond being poorly defined, it is questionable whether relying on delta elimination plans is scientifically or legally defensible. The Clean Water Act is silent on trading or delta eliminations. Washington law limits credits or offsets to the proportion of the non-point source reductions which occur beyond existing requirements. *See* WAC 173-201A-450. WAC 173-201A-450(1) provides, "A water quality offset occurs where a project proponent implements or finances the implementation of controls for point or non-point sources to reduce the levels of pollution for the purpose of creating sufficient assimilative capacity to allow *new or expanded discharges*." The regulation does not address offset for existing levels of discharge. Regardless, the regulation is clear that "[t]he improvements in water quality associated with creating water quality offsets for any proposed new or expanded actions *must be demonstrated to have occurred in advance* of the proposed action." *Id.* at 450(2)(b) (emphasis added). Accordingly, water quality offsets may be used for new and expanded discharges only *after* it is demonstrated that the improvements by the offset actions have occurred and are having the desired water quality benefits.

SR-22 Unlike point sources, non-point source pollution is notoriously difficult to control. Its sources are myriad - such as urban runoff, forestry practices, agricultural practices including crop and animal feeding operations, and recreation, including boats and marinas - and enforcement is difficult. As a result, Ecology must focus first on addressing the largest controllable sources first (point sources) while working on preventive and curative non-point source actions.

[8] The Environmental Groups acknowledge participation in the Nutrient Trading Advisory Committee, but that process is in its infancy and should not be relied upon by Ecology or the Dischargers in lieu of meeting effluent limits.

November 17, 2010
Draft NPDES Permit Comments
Page 9

SR-23 **Recommendation:** Over-reliance on non-point source reduction as a potential offset or trade in a delta elimination plan could frustrate efforts to meet water quality standards. Ecology must make it clear that the Dischargers *must* achieve their permit limits in order to meet water quality standards, and should not rely on the uncertainty surrounding the proposed delta elimination program. The Draft Permits must reflect this reality.

9. Additional Documents must be Available for Citizen Review.

SR-24 The Draft Permits call for the creation of additional documents, such as a technology selection protocol, engineering report, and offset plans. Ecology rules related to the administration of the NPDES program address public access to information, stating "the department shall make records relating to NPDES permits available to the public for inspection and copying." WAC 173-220-080(1). Accordingly, it should be made clear that these documents will be available for public review.

10. Record Retention

SR-25 The Draft Permits require record retention for a minimum of three (3) years. In order to facilitate self-monitoring and agency/citizen review, records should be retained for five (5) years to correspond with Clean Water Act's statute of limitations. 28 U.S.C. § 2462.

Specific Comments on Individual Permits

Liberty Lake Draft Permit

1. Initial Interim Limits should be Established Based on Existing Performance.

Liberty Lake's draft permit should only allow increases in pollution discharges up to existing flow limits until pollution reduction measures are implemented. To avoid making water quality problems worse, Ecology must cap flows and pollutant discharge from the facility at existing performance until interim and final effluent limits can be met. These caps should be based upon actual performance and design flows.

Recommendation: The Liberty Lake draft permit should include a cap on flow based upon existing levels, as well as PCBs and all dissolved oxygen impacting pollutants. If the levels are allowed to increase, Ecology must explain how the increase is in keeping with its anti-degradation policy and anti-backsliding requirements.

Kaiser

1. The Kaiser Draft Permit's Effluent Limitations Do Not Fulfill the Clean Water Act's Technology Forcing Objectives.

The ultimate goal of the Clean Water Act is the elimination of pollutant discharges. *See* 33 U.S.C. § 1251(a)(1). In light of this goal, "compliance with an effluent standard cannot fairly

Ecology's Response to the General Comments from University Legal Assistance et.al.

SR-1: Ecology believes the permit does include limits that will protect the receiving water quality in the Spokane River; and specifically addresses the multiple 303(d) listings for the Spokane River. The permit includes water quality based effluent limit or performance based limits for metals (cadmium, lead and zinc), Water quality based effluent limits for dissolve oxygen consuming pollutants (CBOD, nitrogen, and total phosphorus). The final permit also specifies PCB influent and effluent monitoring and requires development of best management practices for toxicant reduction including goal setting. The monitoring will track the effectiveness of the BMPs, if the toxic reduction goal has been met and provide data to establish performance based PCB effluent limits.

SR-2: Ecology believes the final permit will not cause or contribute to exceedences of applicable receiving water quality standards.

SR-3: Ecology disagrees. Ecology has not ignored the PCB challenge either in the published draft permit or the final permit. Please see the response above in SR-1.

SR-4: The fact sheet references the correct cite for BMPs - 40 CFR Part 122.44(k), which is restated below:

> "In addition to the conditions established in section 122.43 (a), each NPDES permit shall include conditions meeting the following requirements when applicable…
>
> (k) Best Management practices (BMPs) to control or abate the discharge of pollutants when: …
>
> (3) Numeric effluent limitations are infeasible; …"

SR-5: A plain read of the above provision would seem to allow BMPs to control or abate the discharge of pollutants when numeric effluent limitations are infeasible. Such is the case with the PCBs discharged from this facility. Ecology lacks up-to-date effluent PCB data to establish a reliable numeric effluent limit. The few samples also provide no clue as to the reduction that could be achieved with an aggressive toxics reduction strategy in the collection system or the next level of treatment needed for phosphorus reduction.

When the Permittee collects enough effluent PCB data, Ecology expects to set a numeric effluent limit. This limit, in combination with the BMP plan, will ensure that the effluent will improve, not worsen, the PCB conditions in the Spokane River.

SR-6: Ecology has not developed appropriate WQBELs for PCBs, so cannot place these in the final permit. Ecology relies on the TMDL process, which considers background levels and all point and nonpoint sources to set the appropriate WQBELs for impaired waterbodies and/or require clean up strategies be implemented. Ecology will establish performance based effluent limitations after implementation of BMPs.

Ecology believes the lack of a PCB compliance schedule does not place the Permittee at risk for citizen suits. In the absence of a completed TMDL, the permit controls PCBs through implementation of BMPs, and includes monitoring to better characterize the levels of PCBs discharged from the facility.

SR-7: Ecology believes the permit includes all conditions necessary to protect receiving water quality criteria for dissolved oxygen and for metals. The requirements for PCBs have been revised and are more encompassing. However if PCBs coming across the stateline are above the water quality standard, there is nothing Liberty Lake can do about that. Liberty Lake can minimize their effluent concentrations of PCBs through source control and treatment and be part of a comprehensive program to cleanup sources.

All other parameters in the effluent showed no reasonable potential to violate receiving water quality criteria.

SR-8: Ecology in writing and managing the NPDES program in the State of Washington ensures that dischargers do not cause or contribute to violations of receiving water quality criteria. A discharger's obligation is to comply with the permit as written by Ecology.

Additionally, provisions in 40 CFR 122.44 list conditions that NPDES permit should include when applicable. Nothing in this section of 40 CFR specifies a discharger's obligation to meet these requirements.

SR-9: The State's Water Quality Standards allows for schedules of compliance, see WAC 173-201A-510 (4). Compliance schedules "may in no case exceed ten years, and shall generally not exceed the term of any permit".

Similar to the Federal Rules, the State WQ Standards also state that "schedules of compliance shall be developed to ensure final compliance with all water quality-based effluent limits in the shortest practicable time". Ecology has set a 10 year compliance schedule considering the complexities of the dissolved oxygen problem in the Spokane River and the nature of the solution and implementation of the needed treatment technologies. For this discharger, implementation of treatment technology alone may not achieve the final WQBELs for ammonia, CBOD, or total phosphorus. In this case, the Permittee will rely on offsets or pollutant trading to meet their final limits. The offsets may include accounting for bioavailable phosphorus, or pollutant equivalency. With the uncertainties associated with the offset options, the Department believes the 10 year compliance schedule is justified.

However, if it appears that the Permittee can meet their final WQBELs sooner than 10 years, Ecology will have the option of re-opening the permit and shortening the time for the compliance schedule.

SR-10: The State Water Quality Standards provide for compliance schedules for up to 10 years.

SR-11: Again, the State Water Quality Standards provide for 10 year compliance schedules. Federal rules, in 40 CFR part 122.47, do not include a specific time limit, other than stating schedules should require compliance as soon as possible. The Department believes a the Permittee needs a 10 year compliance schedule for total phosphorus, CBOD, and ammonia due to the complexities of the Spokane River dissolved oxygen problem and implementation of solutions.

SR-12: Ecology added language to clarify the offset requirements. Through the offset implementation work group, details such as compliance etc. will be worked out. Ecology expects to clarify these details at the five year permit cycle.

SR-13: Ecology believes the compliance schedules as written are necessary and are not excessively lenient given the time needed to plan, design, construct an establish reliable treatment operations.

SR-14: As stated in WAC 173-201A-300, the purpose of the State's antidegradation policy is to protect existing water quality and requires that discharges into a receiving water not further degrade the existing water quality of the water body.

SR-15: The final permit will protect water quality to the extent practicable and require reductions in pollutant loadings to the water body. In some cases that means water quality based effluent limits. In other cases it means pushing the level of treatment to remove more pollutants in a step wise fashion as scientific knowledge and good engineering practice provide the ability.

SR-16: Ecology has included conditions in the permit to protect receiving water quality criteria.

SR-17: The fact sheet at page 12 discusses the Spokane Tribe of Indians downstream water quality criteria for PCBs and likely reductions needed for compliance. In the permit Ecology has expanded the scope of the best management practices to be considered for minimizing PCBs in the effluent limits in S12.A. PCBs are listed as regulated pollutants in the interim and final effluent limits with reference to section S12.A. Additionally, Ecology will review effluent data from the first 4 years of this permit cycle and develop performance based effluent limits for PCBs for the next permit cycle.

Note: The scanned figure is unreadable in this document. The original is readable, and shows the dissolved oxygen at Porcupine Bay ranges from a low of ___ to a high of ___ mg/L during the years 1988 to 2006.

SR-18: For dissolved oxygen the DO TMDL provides the analysis and WLAs. For PCBs, the draft TMDL fully describes the analysis for meeting tribal water quality standards for PCBs. Since this TMDL is still draft, Ecology cannot place the proposed WLAs in this permit. In the interim, the permit controls PCBs through implementation of BMPs, and includes monitoring to better characterize the levels of PCBs discharged from the facility. Ecology will defer the PCB WQBELs until Ecology completes the TMDL and assigns a WLA (or alternate requirements) to the Permittee.

SR-19: This permit lacks the details regarding the trading and offset plans because they haven't been developed yet. Ecology plans to develop trading and offset guidance over the next several years. In addition, the offset implementation work group will likely develop an additional framework for trades and offsets. This framework will defining the scope of what offset means. Is pollutant equivalency and biologically available phosphorus part of an offset or a permit management issue?

SR-20: Again, the offset implementation work group will answer these types of questions.

SR-21: Ecology expects that compliance encompass more than just offsets as defined by the State Water Quality Standards. Offsets may include trading between pollutants, accounting for biologically un-available phosphorus, trading between facilities, etc. Delta Elimination will include any measure the bridges the gap between what the Permittee will achieve with treatment technology and their final WQBELs.

SR-22: The permit does require compliance and achievement of the WQBELs.

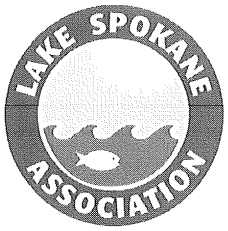
SR-23: Ecology believes the permit clearly states that the Permittee must meet the final WQBELs.

SR-24: Acknowledged. Ecology will make available to the public all submittals required by the permit. This will likely include posting to the Spokane River Forum website (spokaneriver.net), especially for important documents like the technology selection protocol, engineering report, and offset plans.

SR-25: Both State [WAC 173-220-210(2)(c)] and Federal [40 CFR 122.41(j)(2)] rules require the Permittee to keep records of monitoring activities and results for three years, unless extended due to unresolved litigation regarding the discharge of pollutants. Because both rules require the same recordkeeping requirements, Ecology has not lengthened the records retention requirement in the final permit.

Ecology's Response to the LLSWD specific comment from University Legal Assistance et.al.

Permit Condition S.1.A and S.1.B limit pollutant concentration based on current treatment facility performance per a previous legal commitment.



November 17, 2010

Permit Coordinator
Department of Ecology
4601 N. Monroe
Spokane, WA 99205

Dear Sir:

The Lake Spokane Association (LSA) is a non-profit corporation of citizens concerned about the health of Lake Spokane. We appreciate the opportunity to comment on the draft NPDES permits covering the discharge of phosphorus into the Spokane River.

We applaud the efforts made, to date, in removing phosphorus from the Spokane River and Lake Spokane through the development of the Dissolved Oxygen TMDL. We understand the need for a 20 year time line to develop phosphorus removal technologies, allowing the dischargers time to implement these technologies. Unfortunately the permits do not adequately address the issue of reducing the impact of high phosphorus levels in Lake Spokane during the 20 year period.

During the fall of 2010, a very active blue-green algae bloom, causing unsightly and foul smelling mats, developed in Lake Spokane, lasting two months. When samples of this algae were submitted to a laboratory, paid for by your agency, they found high levels of toxins harmful to human health. The Washington Department of Health then posted signs at key access sites, on the lake, advising citizens to be aware of the blooms and not to use the lake where the blooms were occurring.

We ask that the permits require the dischargers to fund or implement procedures that will reduce the presence and impact of the blue-green algae during the life of the permits. Techniques that could be used include treating blue-green algae blooms with chemicals, such as sodium carbonate proxyhydrate or aluminum sulfate at inshore areas. Volunteer funded monitoring programs, such as the LSA, to identify blue-green algae blooms and record turbidity readings, could help this effort.

We are aware that local non-point sources around the lake and in the watershed are also adding to the problem. These sources could include lawn fertilizer, yard waste, septic tanks and drain fields, and livestock operations. We see value in dischargers helping fund educational efforts aimed at shoreline homeowners and local citizens regarding the impacts that they have on the health of the lake. We understand that Avista is proposing similar efforts and believe this would be consistent with them. Such efforts could also include funds to dispose of the yard and livestock waste and to inspect septic tanks and drain fields.

18520 N West Shore Rd | Nine Mile Falls WA 99026 | www.lakespokaneassociation.org

The draft permits are silent about discharging PCB's and other pollutants into the river. A December 2007 report by the U.S. Environmental Protection Agency identified the City of Spokane "as the largest continuing source of PCBs to the river." This is of great concern to the citizens using the Spokane River and Lake Spokane. It is critical that PCB limits be included now when major upgrades to wastewater plants are being installed to address phosphorus.

Sincerely,
Robert J. B———
Robert J. Bankard, President
Lake Spokane Association

Ecology's Response to Request for Reducing Phosphorus Loading:

The permit limits do require compliance with the waste load allocations. Further action was discussed during the collaboration meetings but not recommended for further action until it was known how the water bodies responded. The 10 year assessment will tell us how the water bodies have responded and if further action is needed. During the collaboration meetings chemical treatment as requested in the letter was not offered as an option. Oxygenation was discussed but was tabled for after the 10 year assessment.

Ecology's Response to Concern About Toxicants such as PCBs:

While the permits did address PCBs, it is clear that a more detailed response is desired. The final permit specifies PCB influent and effluent monitoring and requires development of best management practices for toxicant reduction including goal setting. The monitoring will track the effectiveness of the BMPs, if the toxic reduction goal has been met and provide data to establish performance based PCB effluent limits.

Upper Columbia River Group
Box 413
Spokane, Washington 99210

November 17, 2010
Permit Coordinator
Washington State Department of Ecology
Eastern Regional Office
4601 N. Monroe St.
Spokane, WA 99205

Re: Comments on Draft NPDES Permits for
Kaiser Aluminum Fabricated Products, LLC (Permit No. WA-0000892)
City of Spokane Riverside Park Water Reclamation Facility and CSOs, and Spokane County (Pretreatment Program) (Permit No. WA-002447-3)
Inland Empire Paper Co. (Permit No. WA-0000892-5)
Liberty Lake Sewer and Water District (Permit No. WA-0045144)

SENT VIA EMAIL (stra461@ecy.wa.gov)

Dear Permit Coordinator,

These comments are submitted on behalf of the Upper Columbia River Group of the Sierra Club (Sierra Club), on the Department of Ecology's four draft Spokane River NPDES permits, in particular the draft NPDES permits for Liberty Lake Sewer and Water District, the City of Spokane, Kaiser Aluminum, and Inland Empire Paper (IEP). Please include these comments as part of the administrative record for all four draft NPDES permits. Please also include, by reference, our comment letter dated November 13, 2007, including attachments, on prior drafts of these four permits.

Sierra Club has dedicated significant time and resources to protect and restore the Spokane River, including participation in all aspects of the development of the TMDLs for the Spokane River. Sierra Club interests include protection of public health, restoration of wild redband trout populations, protection and enhancement of public use of Riverside State Park (including elimination of noxious odors in the Park and downstream of City of Spokane's sewage treatment plant), and achievement of a healthy river that benefits Spokane's economy and quality of life.

These permits are important steps toward implementing these TMDLs. Accordingly, we would like to continue to work closely with Ecology toward the finalization of these permits. There is no question that sewage and industrial discharges are among the greatest threats to these goals. Therefore, it is imperative that the Washington Department of Ecology and the U.S. Environmental Protection Agency issue NPDES permits that are fully protective of the public interest and designed to achieve water quality standards in the near term. The lengthy delays in adoption of appropriate TMDLs and administrative extensions of these permits make it all the more important that the responsible agencies "get it right".

The Spokane River is listed on Washington's §303(d) list for a number of parameters, including dissolved oxygen, total dissolved gas, PCBs, temperature, and dioxin. Designation of a waterbody pursuant to § 303(d) means that current wastewater technologies and other pollution control activities, such as Best Management Practices (BMPs) for non-point sources, are insufficient to protect the health of the River and that more stringent measures must be applied to meet water quality standards. 33 U.S.C. §§ 1313(d), 1329; 40 C.F.R. § 130.7. As a result, Ecology must

ensure that these permits include effluent limits for PCBs, ammonia, phosphorus, temperature, dioxin, CBOD, and other parameters that will be protective of Washington's and the Spokane Tribe's water quality standards.

Before proceeding with the comments, it must be noted that Sierra Club has substantial concern with the draft dissolved oxygen TMDL, which these permits reference. Sierra Club has submitted substantial comments on the draft TMDLs. The Idaho dischargers have challenged the final dissolved oxygen TMDL. If significant alterations are made to the DO TMDL, Sierra Club specifically requests that Ecology resubmit the NPDES permits for public review and comment. This would allow the public to review the permits in light of the most up-to- date information and any revisions to the TMDL.

(1) Comments on All Four Permits

(1.1) All permits need to be based on the CeQual model for establishing critical river conditions for permit limit calculations in the river during the 1-in-10 year flow year of 2001.

(1.2) All permits must use end-of-pipe water quality-based limits for PCB until a TMDL assigns a WLA in an approved TMDL. NPDES permits should not use technology-based limits or BMPs.

(1.3) Critical river conditions for all permittees must be based on the 2001 parameters estimated from the 2001 calibrated CeQual model for the segment at the discharge point. Those WQ conditions are the best estimate of critical parameters present during a 1 in 10 year flow condition at that location.

(2) Kaiser Aluminum Fabricated Products, LLC (Permit No. WA-0000892)

(2.1) Kaiser needs separately monitor PCBs in the process stream and groundwater to prevent dilution and to provide more reliable results.

(2.2) The use of WQ data from the Spokane River at Riverside State Park is erroneously used to characterize the Spokane River during critical conditions at the Kaiser discharge. This is not appropriate and is misleading.

(3) Liberty Lake Sewer and Water District (Permit No. WA-0045144)

(3.1) The Liberty Lake design criteria (as with Spokane's) have not been confirmed to be able to achieve WQ criteria at design flow or to comply with Tier 2 Antidegradation requirements. Although there were known WQ problems with discharge expansion several years ago, the expansion was approved anyway.

(3.2) Liberty Lake should receive interim performance-based limits to prevent further degradation of the Spokane River and Lake Spokane until such time as DO TMDL implementation demonstrates improvements in water quality.

(4) Inland Empire Paper Co. (Permit No. WA-0000892-5)

(4.1) Pollutants in the waste stream and listed in the 303(d) list such as PCBs must have limits in the permit. If there is no WLA for the discharge in an approved TMDL, then there is no allowable mixing zone - and end-of-pipe WQ-based limits must be applied.

(4.2) Critical conditions used for Temperature and pH limit evaluation are not well explained in the draft permit. Calculations need to show how the allowable maximum incremental changes were addressed for both parameters.

(4.3) Monitoring frequencies used to calculate permit limits are not the same as required in the permit. They must conform. No justification of the effluent data set transformation or autocorrelation values is given.

(4.4) WQ-based arsenic limits now need to be implemented after more than 10 years of delay.

(4.5) Final limits for oxygen demanding pollutants must be placed in the permit and the compliance schedule cannot exceed 5 years in the permit. Any interim limits and compliance schedule exceeding the 5-year maximum permit life must be contained in an administrative order.

(4.6) Performance-based limits for interim effluent loading are appropriate for oxygen demanding pollutants, but so long these limits are developed using the correct data evaluation.

(4.7) Because implementation of the metals TMDL has been delayed excessively, the metals limits should use end-of-pipe limits as interim until a year of monitoring establishes performance. At that point, most stringent of either performance-based or end-of-pipe limits should become automatically effective per the procedure outlined in the metals TMDL.

(4.8) Fecal coliforms are common in undisinfected pulp mill effluent along with opportunistic pathogens. Permit limits consistent with meeting water quality criteria for bacteria must be placed in the permit until quantification of pathogens in IEP effluent is performed by an independent health organization.

(4.9) Pulp mill effluent has been well-documented to cause endocrine disruption in fish including rainbow trout, impairing reproductive and other physiological processes. Because a unique native Red-Band Trout population naturally reproduces in the river near the IEP discharge, it is imperative that the effluent not limit this population's recovery which is also being limited by other water pollution and habitat problems. Exposure to pulp mill phytosterols and other chemicals potentially responsible for endocrine disruption may occur for extended periods since it is likely that the warm IEP discharge creates an attractant to fish when the river is coldest in the winter. This pollution impact from IEP discharges must be shown not to cause any toxic effects in the Red-Band Trout population.

(5) City of Spokane Riverside Park Water Reclamation Facility and CSOs, and Spokane County (Pretreatment Program) (Permit No. WA-002447-3)

(5.1) Permit Application
The permit application submitted in 2004 is not legally valid or applicable to a 2010 permit. A new permit and evaluation must be submitted on a valid application with up to date effluent characterization.

(5.2) Permit Compliance
There has been documented dry weather raw sewage overflows, citizen lawsuits and settlements pertaining to permit violations. Statements such as contained in the fact sheet section C. on permit compliance is grossly misleading. The compliance schedule of any court order should also be reflected in the permit conditions

(5.3) Design Criteria – Facility Loading

(5.3.1) Expansion of the discharge is being permitted as design criteria without an adequate water quality (WQ)-based evaluation at those discharge volumes using the best available river and effluent data representative of critical conditions at design flows. The permit cannot be issued for expanding flows under design criteria without calculating critical conditions, determining reasonable potential, and setting limits under those design criteria flows. If lower flows are being permitted, they must be explicit in the permit. The use of these design flows without the above evaluations for establishing adequate capacity for the City's wastewater treatment in the River is incorrect.

(5.3.2) Tier 2 Antidegradation rules must be complied with for new or ***expanded*** discharges. There is neither an adequate nor up-to-date evaluation accompanying the newly expanded design flow being permitted.

(5.3.3) No dilution zone is allowable for pollutants which already exceed WQ criteria or have a WLA established by a TMDL. End-of-pipe limits must be established for those pollutants such as PCB. It seems impossible to expand discharges to the stated design criteria while at the same time meeting the strict PCB loading limits that will be required under State and Spokane Tribe's water quality standards. The proposed permit, therefore, is not consistent with State and Federal Laws

(5.4) Effluent Limits

(5.4.1) Ecology has a state of art model with extensive instream monitoring calibration data for the critical river condition year of 2001. There is no need to delay permit analyses since all receiving stream parameters used for calculating effluent limits within mixing zones for all Spokane River permits should use the model WQ output data for the river segment at each outfall. It is arbitrary to use data from one sampling effort in 1998 or the non-critical flow year of 2005 to characterize the river for 2010 permits.

(5.4.2) There is a discussion of new mixing studies showing better dilution, but no definition of the actual dimension of the mixing zones or justification of new dilution ratios.

(5.4.3) Probability dictates that 7Q10 flows are higher than 7Q20 flows. Explanation is need to show how critical conditions flow were calculated.

(5.4.4) The dilution factors presented in the text and explained as based on Appendix D does not correspond to those in Appendix C.

(5.4.5) Interim limits applied during a compliance schedule must prevent further worsening of WQ criteria violations in the river and lake while final limits are implemented. Therefore, the interim limits must be based on performance for the current discharge, not on technology-based treatment standards which would allow much larger loading than is currently being discharged.

(5.4.6) Final Limits that will meet state water quality standards must be incorporated into the permit.

(5.4.7) The chlorine limits have no justification presented for inclusion in the permit. There must be a WQ-based evaluation with critical flows. The smell of chlorinated effluent is present in the river past the Bowl and Pitcher within Riverside State Park downstream of the discharge in the summer. These odors violate the aesthetics portion of the WQ narrative criteria and indicate that there are probable toxic concentrations of chlorinated compounds well downstream of the mixing zone. This needs to be controlled by more stringent permit limits for chlorine, including odor. Any expansion of this discharge under these conditions cannot be permitted.

(5.4.8) Effluent Limits in the permit are different than those justified in the Fact Sheet.

(5.4.9) The critical conditions cited for deriving ammonia limits and citing EPA procedures in Appendix D - *Response to Comments* have no justification and are not consistent with critical conditions used to justify pH limits. It appears that the monthly limit for ammonia was defined without justification.

(5.4.10) The permitted upper pH permit limit sets the critical pH used in the ammonia calculation to protect the river from toxic conditions. It appears that data has been arbitrarily selected to apply at different calculations to develop less stringent limits.

(5.4.11) It has been over 15 years since the arsenic issue for limits has been put on delay. Further delay is not warranted or acceptable under the CWA.

(5.4.12) It is not clear why comparison of effluent limits is done under Section I of the Fact Sheet. Are these related to groundwater?

(5.4.13) Effluent permit limits for CBOD of 30 and 45 don't comply with federal technology-based limits and there is no time period label.

(5.4.14) If CBOD technology limits are established, ammonia limits also must be included to prevent the combination of CBOD and NBOD from exceeding the BOD tech-based limits.

(5.4.15) It is inexplicable how WQ criteria for Fecal coliform can be met below the treatment plant if both A&B outfalls discharge together with technology-base limits for bacteria while the river is listed for fecal bacteria violations.
(5.4.16) Pretreatment program implementation facts for the City and County must be documented as justification that the program will be protective during the term of this permit.

Conclusion

As described above, these four permits have significant deficiencies that must be addressed prior to issuance of final permits. Moreover, in the event that significant changes are made to address these comments, comments of other parties, or as the result of changes to the TMDL that materially alter the permits, Sierra Club requests an opportunity to comment on those changes. Please do not hesitate to contact me if you have further questions regarding these comments.

Sincerely,
John Osborn, MD

Ecology's Response to the Sierra Club Comments on All 4 Permits.

Ecology did use CE-QUAL-W2 model to determine the in-stream concentrations necessary to meet dissolved oxygen water quality standards in Lake Spokane and the 7Q10 flows for 2001 were used.

Regarding PCBs, Ecology does not currently have adequate monitoring data to establish WQBELs. Further WQBELs would most be below current method detection limits for PCBs and effective compliance monitoring would be severely compromised.

The final permit specifies PCB influent and effluent monitoring and requires development of best management practices for toxicant reduction including goal setting. The monitoring will track the effectiveness of the BMPs, if the toxic reduction goal has been met and provide data to establish performance based PCB effluent limits.

Regarding critical water conditions for each segment; Ideally that is preferred, but data is not necessarily available to achieve that goal.

Ecology's response to Comments Specific to LLSWD

Design criteria for the next level of treatment have not yet been submitted for review or approval. The Spokane River does not meet the tier 2 antidegradation criterion. The water body's water quality is not of a better quality than the assigned water quality criteria. The interim effluent limits are performance based.

Joy, Shara-Li (ECY)

From: Angie Dierdorff [angie@sunpeopledrygoods.com]
Sent: Monday, November 08, 2010 5:19 PM
To: Joy, Shara-Li (ECY)
Subject: draft permit updates

I am writing to implore The Washington State DOE to limit PCB levels in the Spokane River in the draft permit updates!

I have been concerned about PCB levels in the Spokane River since 2000, when the levels came to my attention and that of People for Environmental Action and Community Health, of which I was a founder.

The City of Spokane's Riverside Park Water Reclamation Facility, Inland Empire Paper, Kaiser Aluminum, and the Liberty Lake Sewer and Water District are all significant sources of PCBs. Ecology has a draft PCB cleanup plan that indicates that standards for PCBs in the Spokane River are not being met. The four aforementioned pollution sources contribute to the problem. Drastic reductions in PCBs are required to meet these standards (more than 90% reduction). PCBs are contaminating our fish and beaches throughout the river.

Please do not miss this opportunity to include PCB limits in the draft permits.

Thank you,

Angie Dierdorff
Sun People Dry Goods Co.
24 W. 2nd Ave, Suite 200
Spokane, WA 99201
509-869-9438 (mobile)
angie@sunpeopledrygoods.com
www.sunpeopledrygoods.com

Ecology's Response: Ecology has expanded the scope of the best management activities to be considered for minimizing PCBs in the effluent limits. PCBs are listed as regulated pollutants in both the interim and final effluent with reference to section to the requirement to development best management practices. Additionally, Ecology will review effluent data from the first 4 years of this permit cycle and develop performance based effluent limits for PCBs for the next permit cycle.

AVISTA

November 17, 2010

Permit Coordinator
Washington Department of Ecology
4601 N. Monroe Street
Spokane, WA 99205

Re: Comments on Draft NPDES Permits Regarding the Spokane River for Inland Empire Paper Company, Kaiser Aluminum, Liberty Lake Sewer and Water District, and the City of Spokane Riverside Park Facility

Dear Sir/Madam:

I am writing to provide comments on the draft NPDES permits for the following facilities discharging to the Spokane River: Inland Empire Paper Company (Permit No. WA-000082-5); Kaiser Aluminum (Permit No. WA-000089-2); Liberty Lake Sewer and Water District (Permit No. WA-0045144); and the City of Spokane Riverside Park Water Reclamation Facility and Combined Sewer Overflows (Permit No. WA-002447-3).

1. In the Inland Empire and Kaiser permits, please revise the first sentence in Condition S4 to read as follows: "The goal of this BMP plan is to reduce effluent concentrations of total phosphorus, CBOD, and ammonia below current discharge levels." The current language indicates that maintaining effluent concentrations at current discharge levels would satisfy the goal of the BMP plan. For the same reason, on page 17 of the Inland Empire Factsheet draft permit, the second full sentence should be revised to state that "The goal of the BMP plan is to lower these pollutants in the effluent …."

2. Condition S5 in the Inland Empire and Kaiser permits includes a table of target pursuit actions and compliance dates. The final target pursuit action, "Meet Final Water Quality Based Effluent Limits," has a footnote stating that Ecology "may adjust the final water quality based effluent limitations on the basis of new information," including "the results of the Avista Dissolved Oxygen Water Quality Attainment Plan." Avista assumes that any adjustment made to the final effluent limits would be to make the limits more stringent, because adjusting the limits to make them less stringent would be prohibited by the anti-backsliding provision of the Clean Water Act. Is our assumption correct? Otherwise, we are concerned that any adjustment could place an additional burden on Avista.

3. The permits for Kaiser and Inland Empire set effluent limits based on "seasonal averages," but do not explain how a seasonal average is to be calculated. Please explain.

4. None of the permits refer to the Water Quality Trading Framework that Ecology is preparing (although the Liberty Lake and City of Spokane permits at least mention the concept of trading -- see Condition S11.A in the Liberty Lake permit and S15.A in the City of Spokane permit, which state that: "The Engineering Report is to address the following topics based on rule requirements, pollutant equivalency consideration, potential for offset creation and

1411 East Mission Avenue
PO Box 3727
Spokane, Washington 99220-3727
800.227.9187
www.avistautilities.com

management including trading, etc."). Each of the draft permits should be revised to explicitly allow dischargers to use credits created under the Trading Framework to help meet water quality based effluent limits.

5. We have several questions regarding offsets and offset plans:

(a) Why do the draft NPDES permits and factsheets for the City of Spokane and Liberty Lake contain provisions regarding offsets and offset plans, but the draft NPDES permits and factsheets for IEP and Kaiser do not?

(b) Please explain how an offset plan (as that term is used in the draft permits and factsheets for City of Spokane and Liberty Lake) relates to the Trading Framework.

(c) Please explain how an offset plan (as that term is used in the draft permits and factsheets for City of Spokane and Liberty Lake) relates to the Delta Elimination Plan.

(d) The draft permits and factsheets for both the City of Spokane and Liberty Lake state that "Offset Plan: Not a requirement in the proposed permit. In the next permit cycle it is anticipated that an Offset Plan will be required." *See* p. 32 of the City of Spokane factsheet and p. 26 of the Liberty Lake factsheet. However, p. 35 of the City of Spokane factsheet indicates that the permittee is required to submit its initial Annual Offset Plan Update in February, 2013. Because the draft permit will not expire until 2015, does that not make the submission of the initial Annual Offset Plan Update a requirement of this permit? Also, why is Liberty Lake not required to submit its initial Annual Offset Plan Update by the same date?

6. In the City of Spokane permit, footnote 6 to the S2 Monitoring Requirements states as follows:

> Beginning March 1, 2018; for the 3 parameters ($CBOD_5$, NH_3 and TP) with WLAs established by the Spokane River and Lake Spokane DO TMDL, the monthly discharge monitoring report must provide the following information for the "ten year assessment" monitoring and future compliance projections: monthly average, daily maximum, running total for the "season," running average for the "season," projected trend of total lbs. and average concentration and average daily lbs. for remainder of the "season" with future compliance target indicated. If the trend projection indicates a probability of noncompliance with the allowable mass limitations to be in effect once the period of formal compliance begins in 2021, the permittee is to communicate the anticipated result of the projection to the Department with appropriate recommendations.

Regarding this language, please change "probability of noncompliance" to "significant potential for noncompliance," and at the end of the last sentence add "to avoid a trend that would result in noncompliance." "Probability of noncompliance" at least suggests that the City of Spokane need not report unless the likelihood of noncompliance exceeds 50 percent, a standard inconsistent with the Clean Water Act. Please also define "season" for purposes of this footnote, since that term refers to at least three different time spans elsewhere in the City of Spokane draft permit.

See, e.g., page 8 of draft permit, where there is reference to the "season" of March 1 to May 31, the "season" of June 1 to September 30, and the "season" of October 1 to October 31.

7. The factsheets for Kaiser Aluminum (page 18) and Inland Empire Paper Company (page 13) contain a table labeled "NPDES Permit Cycle." The table includes Avista, despite the fact that it is not subject to an NPDES permit. Furthermore, the table incorrectly characterizes Avista's implementation schedule under its Section 401 Certification.

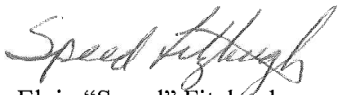
To avoid confusion and to make Avista's implementation schedule consistent with its Section 401 Certification, please remove Avista from the table and include immediately below the table the following narrative summary of Avista's schedule:

> Avista's Lake Spokane Dissolved Oxygen Water Quality Attainment Plan (DO WQAP) will be submitted to Ecology for review and approval by May 27, 2012. Avista must also submit the DO WQAP to the Federal Energy Regulatory Commission (FERC) for approval, and cannot proceed with any mitigation/implementation activities identified in the DO WQAP until it receives FERC approval. The DO WQAP will contain a compliance schedule for implementation that to the degree reasonable and feasible is synchronized with the milestones and assessments of the DO TMDL for the Spokane River, but does not exceed ten years (WAC 173-201A-510(5)). If at the end of the ten year compliance period, Avista is unable to address its proportional level of responsibility as determined in the DO TMDL, after evaluating and implementing all reasonable and feasible alternatives under WAC 173-201A-510(5)(g), then Avista will propose an alternative action to achieve compliance with the DO TMDL, such as new reasonable and feasible technologies or other options to achieve compliance with the DO TMDL, a new compliance schedule, or other alternatives as allowed by WAC173-201A-510(5)(g).

Please also explain why Avista's DO WQAP is referenced in the Kaiser and IEP factsheets, but not in the factsheets for Liberty Lake Sewer and Water District or for the City of Spokane.

We appreciate your consideration of our comments. Please feel free to call me at (509) 495-4998 if you have any questions.

Very truly yours,



Elvin "Speed" Fitzhugh
Spokane River License Manager

Ecology's Response to AVISTA Comments No. 4 and 5:

The water quality trading framework is still in development. Until the "framework" is complete the permits can do no more than provide a future opportunity to make use of the result. The proposed engineering reports are an appropriate tool for presenting details of how a discharger proposes to use the trading framework individually or collectively.

Ecology's Response to AVISTA Comment No. 6:

Significant noncompliance is better as is the comment on trends predicting non-compliance.

-----Original Message-----
From: FRANK I BACKUS [mailto:frankbackus@comcast.net]
Sent: Wednesday, November 17, 2010 8:40 AM
To: Darrell, Ginny (ECY)
Cc: Puddicombe seablues
Subject: NPDES for Spokane River

The Department of Ecology must ensure that NPDES permits include effluent limits for PCBs, ammonia, phosphorus, temperature, dioxin, CBOD, and other parameters that will be protective of Washington's and the Spokane Tribe's water quality standards. The proposal as it is does not protect enough.

As a physician, I want to emphasize the importance to the people of Spokane and all of the Pacific NW to have safe waters. And remember that the Spokane River does drain into Puget Sound, which is in need of much lower and safer levels of toxins and effluents. Do the right thing!

I support the limits suggested by the Sierra Club. All permits need to be based on the CeQual model for establishing critical river conditions for permit limit calculations in the river during the 1-in-10 year flow year of 2001. All permits must use end-of-pipe water quality-based limits for PCB until a TMDL assigns a WLA in an approved TMDL. NPDES permits should not use technology-based limits or BMPs. Critical river conditions for all permittees must be based on the 2001 parameters estimated from the 2001 calibrated CeQual model for the segment at the discharge point. Those WQ conditions are the best estimate of critical parameters present during a 1 in 10 year flow condition at that location. Kaiser needs separately monitor PCBs in the process stream and groundwater to prevent dilution and to provide more reliable results. The Liberty Lake design criteria (as with Spokane's) have not been confirmed to be able to achieve WQ criteria at design flow or to comply with Tier 2 Antidegradation requirements. Although there were known WQ problems with discharge expansion several years ago, the expansion was approved anyway. Liberty Lake should receive interim performance-based limits to prevent further degradation of the Spokane River and Lake Spokane until such time as DO TMDL implementation demonstrates improvements in water quality. Pollutants in the waste stream and listed in the 303(d) list such as PCBs must have limits in the permit. If there is no WLA for the discharge in an approved TMDL, then there is no allowable mixing zone - and end-of-pipe WQ-based limits must be applied. WQ-based arsenic limits now need to be implemented after more than 10 years of delay. Final limits for oxygen demanding pollutants must be placed in the permit and the compliance schedule cannot exceed 5 years in the permit. Any interim limits and compliance schedule exceeding the 5-year maximum permit life must be contained in an administrative order. Because implementation of the metals TMDL has been delayed excessively, the metals limits should use end-of-pipe limits as interim until a year of monitoring establishes performance. At that point, most stringent of either performance-based or end-of-pipe limits should become automatically effective per the procedure outlined in the metals TMDL. Fecal coliforms are common in undisinfected pulp mill effluent along with opportunistic pathogens. Permit limits consistent with meeting water

Please see the comments to the Sierra Club.

Joy, Shara-Li (ECY)

From: Ken Carmichael [kcarmichael2225@gmail.com]
Sent: Monday, November 15, 2010 9:13 AM
To: Joy, Shara-Li (ECY)
Subject: Water discharge permits on Spokane River

I am not a water quality expert nor do I fully understand all of the technical aspects surrounding cleaning up the Spokane River and Lake Spokane. I am a resident that uses the lake frequently and am very familiar with the quality of the water during the summer. I have attended several public meetings on the issue.

I recognize that there is a high cost and several technical hurtles to go over in order for us to make significant improvement to the quality of the water. However, with all this said I believe that it is essential for the good of the river and the community as a whole that every conceivable effort be made to maximize our efforts to clean up these waters.

The reason this has become so expensive is that we have already let it go too long. In the past using the water way as a means of disposal was less expensive and convenient. Now we must pay the price for our past. I believe that we have no choice for our own economic, social and environmental well being but to expect the absolute best efforts to clean up the water.

This effort should not be allowed to be delayed, regardless of the cost. Those who have benefited must now step forward and pay the price.

Ken Carmichael
466-2225

Ecology's Response:

First, thank you for your comment. Second, the Department wants to implement change as soon as practical. Third, the City of Spokane has begun implementing a number of small changes before the permit is final and effective. The City has already invested $8 million in testing advanced levels of treatment to keep proposed improvements moving forward towards the scheduled compliance date and water quality improvement. Fourth the LLS&WD has also ran a pilot test program for the next level of treatment and is seeking funding for an engineering report to start the implementation process.

After the close of the public comment period, Ecology had further conversations with the US EPA Region X and the Spokane Tribe of Indians regarding PCBs discharged to the Spokane River. The concept of a Regional PCB Task Force was initially put forth by Spokane County and the Spokane Riverkeeper. Ecology, the US EPA Region X and the Spokane Tribal representative reviewed the proposal and agreed on an additional condition in the final permits for each Spokane River Permittee in Washington which requires the Permittee to participate in the creation of a Regional Toxics Task Force for the Spokane River. The Task Force will develop a comprehensive plan with the goal of bringing the Spokane River into compliance with applicable water quality standards for PCBs. Ecology will also include this condition in other NPDES permits issued on the Spokane River (City of Spokane, Inland Empire Paper Company, Kaiser and the proposed permit for Spokane County).